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April 22, 2019

Reference No. 038443-330

Ms. Leslie Patterson
Remedial Project Manager
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Mail Code SR-6J
Chicago, Illinois
60604

Ms. Tamara McPeek
Environmental Response and Revitalization
Ohio Environmental Protection Agency
Southwest District Office
401 East Fifth Street
Dayton, Ohio
45402

Dear Ms. Patterson and Ms. McPeek:

**Re: Phase 1 Soil Gas Investigation Activities and Results - updated
South Dayton Dump and Landfill Site, Moraine, Ohio (Site)**

This letter provides a summary and discussion of results from the Phase 1 soil gas investigation activities conducted at the South Dayton Dump and Landfill Site (Site) and vicinity, from January 2018 to January 2019. This letter is submitted as an interim deliverable for the purpose of providing the results of field monitoring and sampling of existing and new soil gas probes, pending completion of the remaining RI field sampling activities. GHD has prepared this letter on behalf of the Respondents to the Administrative Settlement Agreement and Order on Consent (ASAOC) for Remedial Investigation/Feasibility Study (RI/FS) of the Site, Docket No. V-W-16-C-011 (Respondents).

Soil Gas Probe Installation

GHD proposed installation of 18 soil gas probes in the Remedial Investigation/Feasibility Study (RI/FS) Work Plan for Operable Units 1 and 2 (RI/FS Work Plan), including 12 new soil gas probes and 6 soil gas probes reinstalled at existing locations to depths greater than 5 feet below ground surface (BGS).

A total of 11 new soil gas probe installations were completed and three soil gas probes were re-installed (to depths greater than 5 feet BGS) from January 2018 to January 2019 as described in the RI/FS Work Plan. In addition, one gas probe was re-installed since the original gas probe could not be found and one



other was re-installed since the original probe could not be monitored. The completed gas probe locations (shown on Figure 1) include, in sequence, the following:

- Soil gas probe GP32-18 was installed on January 10, 2018
- Soil gas probe GP30-18 was installed on January 17, 2018
- Soil gas probe GP33-18 was installed on January 23, 2018
- Existing soil gas probes GP19-09 and GP20-09 were abandoned and reinstalled at deeper depths as GP19-18 and GP20-18 on January 24, 2018
- Soil gas probe GP31-18 was installed on January 25, 2018
- Soil gas probe GP25-18 was installed on January 29, 2018
- Soil gas probe GP01-18 was installed on January 29, 2018, at an offset location to replace GP01-09
- Soil gas probes GP26-18 and GP28-18 were installed on January 31, 2018
- Soil gas probes GP27-18 and GP29-18 were installed on February 1, 2018
- Soil gas probe GP34-18 was installed on July 31, 2018
- Soil gas probe GP07-09 could not be located and was re-installed as GP07-18 on August 1, 2018 (in addition to the probes identified in the RI/FS Work Plan)
- Soil gas probe GP35-19 was installed on January 15, 2019
- Soil gas probe GP08-09 could not be monitored and was re-installed as GP08-19 on January 15, 2019

The soil gas probes proposed in the RI/FS Work Plan that remain to be completed include one location at an East River Road property (on Parcel 3257), pending Site access (or identification of an alternate location). Three soil gas probes that were proposed to be reinstalled at depths greater than 5 feet BGS were not completed. Two of these locations (GP17-09 and GP18-09) at Valley Asphalt property are inaccessible due to ongoing operations at Valley Asphalt. Soil gas probes GP17-09 and GP18-09 were originally installed to assess landfill gas and soil vapor quality and the risk to any building occupants in the two nearby structures that have been demolished by Valley Asphalt, and they are therefore no longer required for that purpose. GHD will evaluate the need for additional soil gas probes on Valley Asphalt property during the soil gas data assessment that will be completed in accordance with the RI/FS Work. GHD attempted to reinstall existing soil gas probe GP03-09 (located on the central portion of the Site in Parcel 5177) at a depth greater than 5 feet BGS; however, this was not completed because the water table was present at a depth of 6.0 feet BGS. The soil gas probe locations completed to date and the one remaining proposed location per the RI/FS Work Plan are shown on Figure 1. A summary of the GHD soil gas probe completion details are provided in Table 1, which also lists EPA multi-level gas probes¹.

¹ GHD has requested soil gas completion details for the EPA multi-level soil gas probes from USEPA. GHD will determine the feasibility of measuring the depths of the EPA soil gas probes for confirmation purposes.



For each new and replacement soil gas probe, drilling and installation was completed using direct push technology, with GHD oversight. The soil core retrieved from each location was logged to determine stratigraphy to the required depth, approximately 20 feet BGS, and was used to establish the soil gas probe screen interval. The stratigraphic and instrumentation logs for each new and/or replacement soil gas probe location listed above are included in Attachment 1.

In accordance with the RI/FS Work Plan, GHD collected 16 soil samples from the gas probe borings and submitted to TestAmerica Laboratories in North Canton, Ohio Test for laboratory analysis of volatile organic compounds (VOCs), fraction of organic carbon (FoC) and grain size sieve analysis. Soil samples were collected from gas probe borings at the screened depth at all new and/or replacement soil gas probe locations, with the one exception. At GP28-18, a soil sample was collected from a depth of 15 to 16 feet BGS. Due to detection of perched water recorded to be present at 13 feet BGSs for VOCs and physical testing parameters are summarized in Table 2.

VOCs were detected in soil samples collected from 15 of the 16 soil gas probe locations; VOCs were not detected in the soil sample from GP34-18. Collectively, the detected VOCs in soil samples include benzene, toluene, ethylbenzene, xylenes (BTEX), vinyl chloride (VC), cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), tetrachloroethene (PCE), 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 2-butanone, acetone, carbon disulfide, chlorobenzene, isopropyl benzene, methyl acetate, and methyl cyclohexane. The total detected VOC concentrations at 10 of 16 borings were less than 100 µg/kg. The soil borings with the greatest total detected VOC concentrations include GP01-18 (at Valley Asphalt property) and GP28-18 (in the central portion of the Site). At these two locations the total detected VOC concentrations were 100,000 and 3,350,000 µg/kg, respectively. The next three greatest total VOC concentrations were detected at GP27-18 (6,616 µg/kg), GP07-18 (3,827 µg/kg), and GP25-18 (2,000 µg/kg), and the total VOC concentrations at each of the remaining eleven locations were all less than 100 µg/kg.

Field Parameter Monitoring - 2018

Field parameter monitoring for organic vapors, carbon dioxide, oxygen, combustible gas (i.e., methane and other explosive gases), and hydrogen sulfide were completed in three monitoring rounds in 2018, as described in the RI/FS Work Plan. Field monitoring includes all accessible soil gas probes installed by GHD, which includes probes newly installed in 2018 and 2019 as well as probes installed prior to 2018, as shown on Figure 1. Three soil gas probes that were not accessible or not found were GP07-09; GP17-09; and GP18-09. The monitoring program identified in the RI/FS Work Plan also includes USEPA soil gas probes at six locations, identified as GP-1 and GP-3 through GP-7². These locations include multi-level probes, totaling 17 discrete gas probe screen intervals.

² One USEPA soil gas probe location (GP-2) located adjacent to the DP&L transportation building and former UST area was not included in the field monitoring program based on USEPA approval of GHD's Technical Report: GP-2 Methane Monitoring Summary & Assessment, South Dayton Dump and Landfill Site and Revision 1, Addendum 2 of the VI Mitigation Work Plan, provided on December 12, 2016.



The field parameter monitoring rounds are described below:

Round 1 – March 2018

- Field parameter monitoring was completed at 28 GHD soil gas probes and 12 USEPA soil gas probes on March 21, 2018.
- Four soil gas probes (GP06-09, GP07-09, GP08-09, and USEPA GP-7) were inaccessible due to the presence of snow, vegetation, or stockpiled debris, and one soil gas probe (GP21-09) had insufficient gas flow. Two soil gas probes (GP17-09 and GP18-09) located on Valley Asphalt property were excluded since they are inaccessible, and were constructed to a depth less than 5 feet BGS.
- The results of the March 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Table 1.

Round 2 – August/September 2018

- Field parameter monitoring was completed at 32 GHD soil gas probes and 9 USEPA soil gas probes on August 24, 2018.
- Pressure readings were completed at 33 GHD soil gas probe locations and 15 USEPA soil gas probes from September 4 to 6, 2018.
- Supplementary field monitoring was completed at eight GHD soil gas probe locations and five USEPA soil gas probes from September 4 to 6, 2018. This included measuring combustible gas concentrations using a LandTec GEM2000 with a filtering device to assist with differentiating methane from other explosive gases³, in response to the unfiltered total combustible gas monitoring readings from August 24, 2018 (see Table 2b in Attachment 2).
- One soil gas probe (GP08-09) had insufficient gas flow and was not monitored. Two GHD soil gas probes (GP17-09 and GP18-09) located on Valley Asphalt property were not included for the same reasons noted above for the first monitoring round.
- The results of the August/September 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Tables 2a and 2b.

Round 3 – November 2018

- Field parameter monitoring was completed at 30 GHD soil gas probes and 12 USEPA soil gas probes on November 12 to 14, 2018.
- Two soil gas probes (GP09-09 and USEPA GP-6) were inaccessible due to the presence of vegetation or stockpiled debris. Four soil gas probes (GP03-09, GP08-09, USEPA GP-1 (south), and USEPA GP-3 (southeast)) had insufficient gas flow and were not monitored. Two GHD soil gas

³ GHD has completed filtered and unfiltered combustible gas readings since March 2012 at USEPA's request in order to monitor methane and total combustible gases, respectively. The filtering device removes interferences from other potentially present hydrocarbons while allowing methane to pass through to the combustible gas meter.



probes (GP17-09 and GP18-09) located on Valley Asphalt property were not included for the same reasons noted above for the first and second monitoring rounds.

- The results of the November 2018 soil gas field parameter monitoring round are provided in Attachment 2 - Table 3.

GHD conducted a review of previous and current field monitoring results for combustible gases (i.e., both unfiltered and filtered). Figures 2 and 3 illustrate monitoring results from 2009 through 2016, and from 2018, respectively. Each figure shows monitoring results for locations where combustible gas readings were greater than the lower explosive limit for methane (5%), on at least one occasion. As shown on Figure 2, the pre-2018 results indicate presence of total combustible gases and methane at six on-site soil gas probes⁴, and one off-site soil gas probe⁵ (GP-2) exceeding the 5% threshold. The 2018 results shown on Figure 3 indicate the presence of total combustible gases and methane exceeding 5% at three locations within the northern and central portions of the Site, including GP01-18 (at Valley Asphalt property)⁶, GP02-09 and GP28-18 (both located in the central portion of the site). Total combustible gases was not detected above the 5% threshold at any of the remaining soil gas probe locations, with the exception of GP07-18 (at Jim City property). At GP07-18, a significant difference between the unfiltered and filtered results was identified (5.2% and 0.2%, respectively), and the filtered results are well below the 5% threshold for methane. This finding indicates that the instrument readings for total combustible gases (unfiltered methane) are affected by the presence of other hydrocarbons, and methane is not present above the 5% threshold, at GP07-18.

Field parameter monitoring for organic vapors, carbon dioxide, oxygen, and hydrogen sulfide completed in three monitoring rounds in 2018 are summarized below:

- Organic vapor readings, measured using a photoionization detector (PID), were typically less than 25 ppm during all three rounds. The greatest readings were recorded at GP07-18 located at Jim City property (up to 205 ppm, in August/September 2018).
- Carbon dioxide levels ranged from 0 to 16.4%, and oxygen levels ranged from 0 to 21.4%.
- Hydrogen sulfide was detected at 8 soil gas probe locations in the August/September monitoring round (max of 8 ppm at GP02-09), and at 5 soil gas probe locations in the November 2018 monitoring round (max of 4.3 ppm at USEPA GP-7[west]). Hydrogen sulfide was not detected during the March 2018 monitoring round.

⁴ Two of the on-site soil gas probes (GP17-09 and GP18-09) that exhibited elevated combustible gas readings in previous monitoring were not found in 2018 and hence were not monitored.

⁵ The off-site location (GP-2) is situated adjacent to the Dayton Power & Light facility. The soil gas impacts measured at GP-2 were determined to be unrelated to the SDD Site. See GHD's Technical Report: GP-2 Methane Monitoring Summary & Assessment, South Dayton Dump and Landfill Site, provided on December 12, 2016.

⁶ GHD notes that two soil gas probes at Valley Asphalt that are no longer accessible (GP17-09 and GP18-09) identified the presence of combustible gas prior to 2018 but current conditions have not been assessed.



Soil Gas Probe Sampling and Analysis

GHD completed soil gas sampling from August 14 to August 24, 2018 using 32 GHD soil gas probes in accordance with RI/FS Work Plan procedures. GHD submitted 38 samples (including one trip blank, one ambient air sample, and 4 field duplicates), to TestAmerica Knoxville for VOC (TO-15) analysis. GHD did not collect a sample from one GHD soil gas probe (GP08-09) due to insufficient gas flow. Field notes are provided in Attachment 3.

The validated analytical results are included in Tables 3 and 4, with screening criteria for commercial and residential land use, respectively. The analytical results indicate variable presence of VOCs. The locations with the greatest detected VOC concentrations include GP07-18 (Jim City) and GP01-18 (Valley Asphalt), and significantly lower concentrations were detected at the remaining locations. The spatial distribution of the VOC results is indicative of localized areas of soil gas impact at GP01-18 and GP07-18 potentially related to operations being conducted within the respective properties. Further discussion regarding the distribution of individual VOCs and comparison to screening criteria is provided below.

Comparison of Analytical Results to Screening Criteria

As noted above, Tables 3 and 4 also include generic screening criteria for commercial land use and residential land use, respectively. The screening criteria include:

- USEPA sub-slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) conservatively calculated at the lower of a target cancer risk of 1×10^{-6} and a hazard quotient (HQ) of 0.1.
- Ohio EPA response action levels and removal management levels, from the Ohio EPA Guidance Document titled "*Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio*", dated August 2016.

As shown in Table 3, detected VOC concentrations exceeded the generic commercial criteria at the following locations:

- Valley Asphalt property: GP01-18 (chlorobenzenze, vinyl chloride, benzene, ethylbenzene) and GP32-18 (TCE)
- Dryden Road businesses:
 - GP16-09 (vinyl chloride), GP19-18 (vinyl chloride), and GP20-18 (TCE) at Parcel 5171 (B&G Equipment & Truck Repair)
 - GP15-09 (TCE, 1,1-DCA) and GP31-18 (TCE, chloroform) at Parcel 5172 (tenants - S&J Precision, Overstreet Painting, NexGen Vending)
 - GP14-09 (TCE) at Parcel 5173 (tenant - Sim Trainer)
 - GP13-09 (1,1-DCA) at Parcel 5174 (tenant - Command Roofing)
 - GP12-09 (TCE) and GP23-13 (TCE) at Parcel 5175 (tenant – D. Dickinson Construction)



- The undeveloped central portion of the site, being part of Parcel 5177: GP03-09 (TCE), GP26-18 (TCE), GP27-18 (1,4-Dichlorobenzene, Benzene, Chlorobenzene), GP28-18 (Benzene, Chlorobenzene, vinyl chloride)
- Southern portion of site:
 - GP07-18 (1,2,4-Trimethylbenzene, BTEX, cyclohexane, hexane, isopropyl benzene, n-heptane) at Jim City property
 - GP09-09 (TCE) and GP10-09 (TCE) **non responsive**

The soil gas probes that were sampled and had no detections that exceeded the generic commercial criteria include: GP02-09, GP04-09, GP05-09, GP06-09, GP11-09, GP21-09, GP22-13, GP24A-13, GP24B-13, GP25-18, GP29-18, GP30-18, GP33-18 and GP34-18 (see Table 3).

In addition to the above locations, eight other locations had detected concentrations exceeding the generic residential criteria (see Table 4), i.e., 26 of 32 soil gas probe locations had detected concentrations exceeding the generic residential criteria. The soil gas probes that were sampled and had no detections that exceeded the generic residential criteria include: GP04-09, GP06-09, GP11-09, GP24B-13, GP30-18, and GP34-18.

As indicated above, TCE is the most frequently detected and broadly distributed VOC with concentrations exceeding commercial screening criteria in August 2018 samples from the following soil gas probes: GP03-09; GP09-09; GP10-09; GP12-09; GP14-09; GP15-09 (also contains 1,1-Dichloroethane [1,1-DCA]); GP20-18; GP23-13; GP26-18; GP31-18 (also contains Chloroform); and GP32-18. The maximum detected TCE concentrations in August 2018 samples were identified at Parcel 5172 including GP31-18 (27,000 µg/m³) and GP15-09 (3,400 µg/m³); and Parcel 5171 at GP20-18 (6,700 µg/m³). Other VOCs that were detected at concentrations exceeding commercial screening criteria exhibit a more isolated distribution, for example, vinyl chloride at four soil gas probes (maximum 2,500 µg/m³) and chlorobenzene at three soil gas probes (maximum 110,000 µg/m³). A distinctly different VOC profile was observed in the soil gas sample collected from Parcel 3753 (GP07-18), which identified exceedances of BTEX, hexane, n-heptane, 1,2,4-trimethylbenzene, cyclohexane, and isopropyl benzene; several of these compounds/contaminants are related to fuels and petroleum substances.

Discussion and Recommendations

Based on current land use, commercial activities are conducted on various property parcels within OU1. Potential residential exposure within OU1 is limited to one location, **non responsive**

the nearest soil gas probe is GP09-09. The soil gas sample collected in August 2018 from GP09-09 contained TCE at a concentration of 690 µg/m³, which exceeds the USEPA VISL and the Ohio action levels for commercial and residential use. No other VOCs were detected at concentrations above commercial or residential screening criteria at GP09-09 in the August 2018 sample.



The previous sampling results at GP09-09 (in 2009) also indicate the presence of TCE at a concentration of 2,000 µg/m³, which exceeds the USEPA VISL and the Ohio action levels for commercial and residential use. In 2009 Respondents and USEPA agreed that no further action was required for any of the residential and/or commercial buildings on Parcel 4610. The results from the 2012 crawl space air sample and duplicate sample at the mobile home structure (0.12 µg/m³/ ND(0.16) µg/m³) (CRA, Vapor Intrusion Investigation Summary Report, December 2012) did not exceed the then-current indoor air criteria that were conservatively identified as the applicable criteria⁷ and are less than the current USEPA Residential Air RSL (0.21 µg/m³). In order to assess current conditions and subject to agreement by the property owner, GHD proposes to collect an air sample from the crawl space at the mobile home structure during the summer of 2019 (in conjunction with the July vapor intrusion sampling event).

As noted above, other soil gas probe sample locations within areas of commercial land use in OU1 have detected VOC concentrations above screening criteria based on commercial land use, i.e., Valley Asphalt, Dryden Road businesses, and Jim City. Valley Asphalt has already implemented a VI mitigation program within their property, with USEPA oversight. The VI mitigation program implemented by the Respondents in 2013 addresses the Dryden Road business locations.

Jim City property was not included in the 2012 VI study conducted by the Respondents. The 2009 analytical results for GP07-09 did not indicate any exceedances of applicable criteria⁸, which included comparison to residential criteria. Landfill gas/soil vapor probe GP07-09 could not be located in 2018, and was replaced with GP07-18. Unlike GP07-09, the soil vapor sample from GP07-18 contained benzene, toluene, ethylbenzene, xylenes (BTEX), hexane, and n-heptane at concentrations greater than USEPA VISLs for sub-slab from commercial structures; these compounds/contaminants are related to fuels and appear to be unrelated to the SDD site. GHD confirmed with the property owner that the building adjacent to GP07-18 (located on Parcel 3256) is used for equipment storage only.

Based on the above, GHD recommends the following:

- Regarding Parcel [REDACTED] inform the property owner of the findings based on the 2018 soil gas sampling results
- Regarding Parcel 3753 (Jim City property), inform the property owner of the findings based on the 2018 soil gas sampling results
- Complete the installation of the proposed soil gas probe within the East River Road property subject to obtaining property access or selection of a suitable alternate location
- Collect crawl space and outdoor ambient air samples from Parcel 4610 Building 18 (mobile home structure) during the July VI sampling event, subject to property owner agreement.

⁷ Vapor Intrusion Investigation Summary Report. CRA, December 2012 (38443 Report 17)

⁸ "Results of the Landfill Gas/Soil Vapor Investigation", Conestoga-Rovers & Associates (CRA, now GHD), January 11, 2010 (038443Cibu-69)



- Collect soil gas sample from GP08-19 and GP35-19 for analyses of VOCs during the July VI sampling event.
- Complete the soil gas data assessment in accordance with the RI/FS Work Plan

Should you have any questions on the above, please do not hesitate to contact us.

Sincerely,

GHD

A handwritten signature in blue ink that reads "Julian Hayward".

Julian Hayward

JH/kf/8

Encl.

cc: (all by pdf) Ken Brown, ITW
 Bryan Heath, NCR
 Wendell Barner, Barner Consulting
 Jim Campbell, EMI
 Andrew Dorn, ITW
 Brett Fishwild, Jacobs
 Valerie Chan, GHD

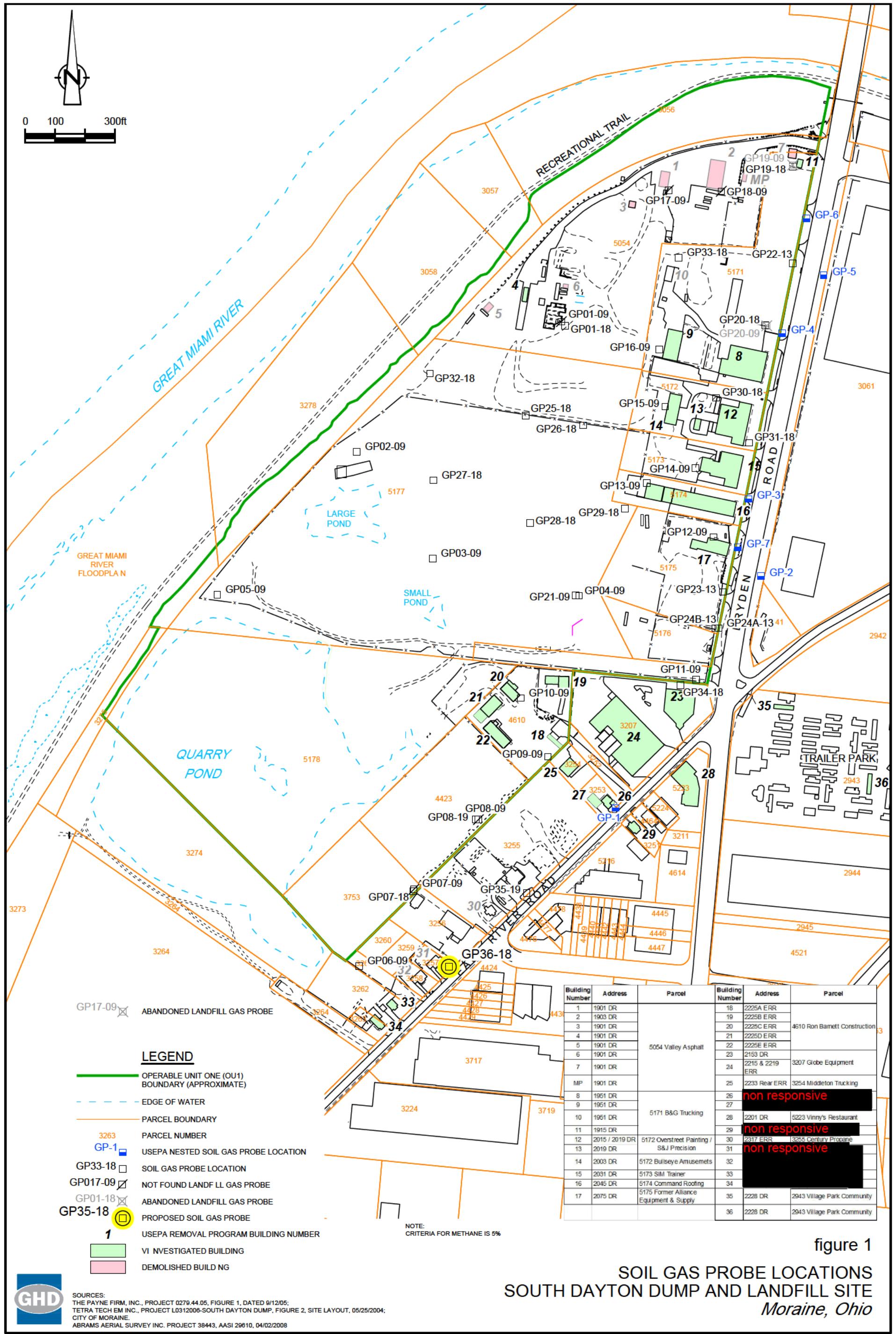
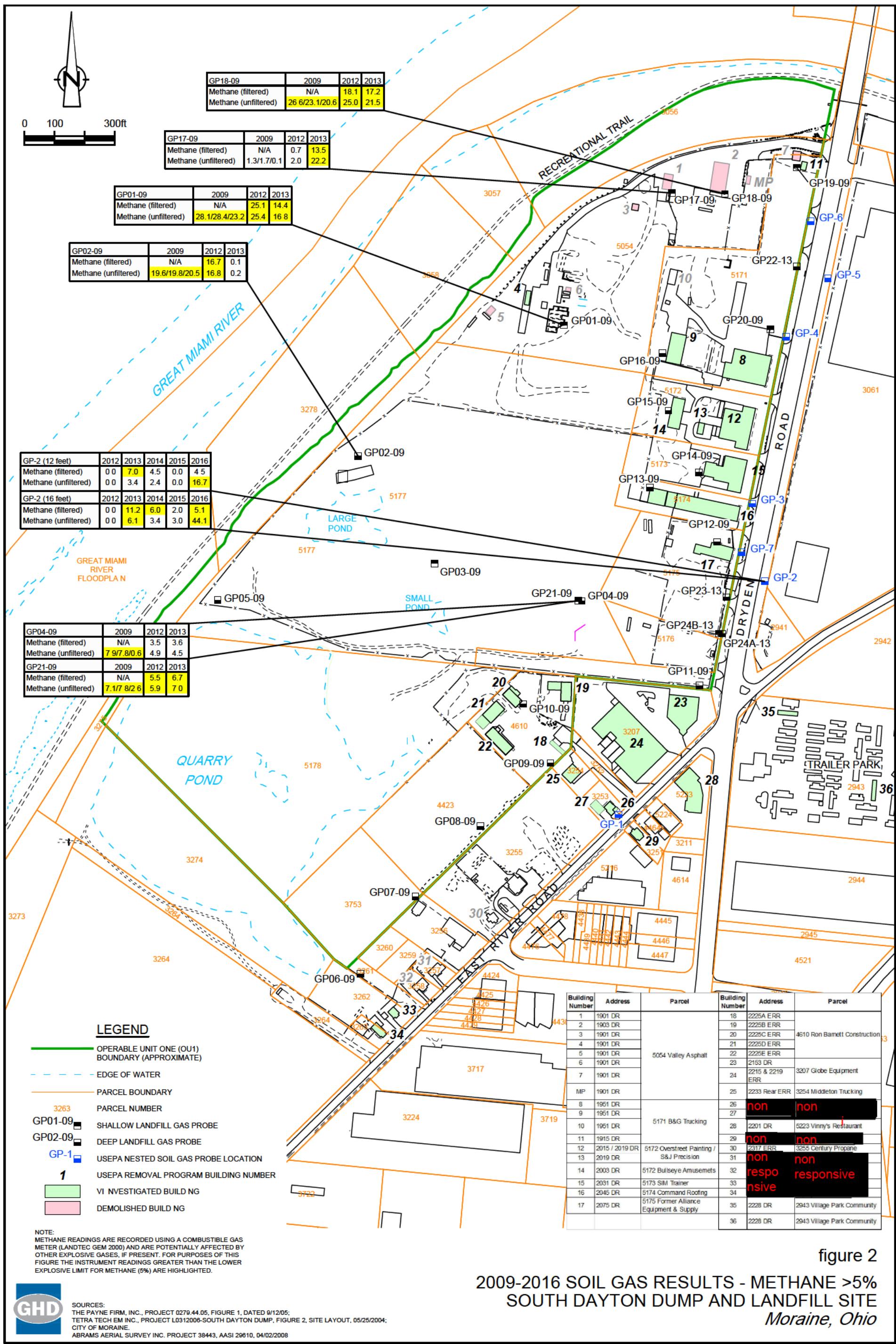


figure 1

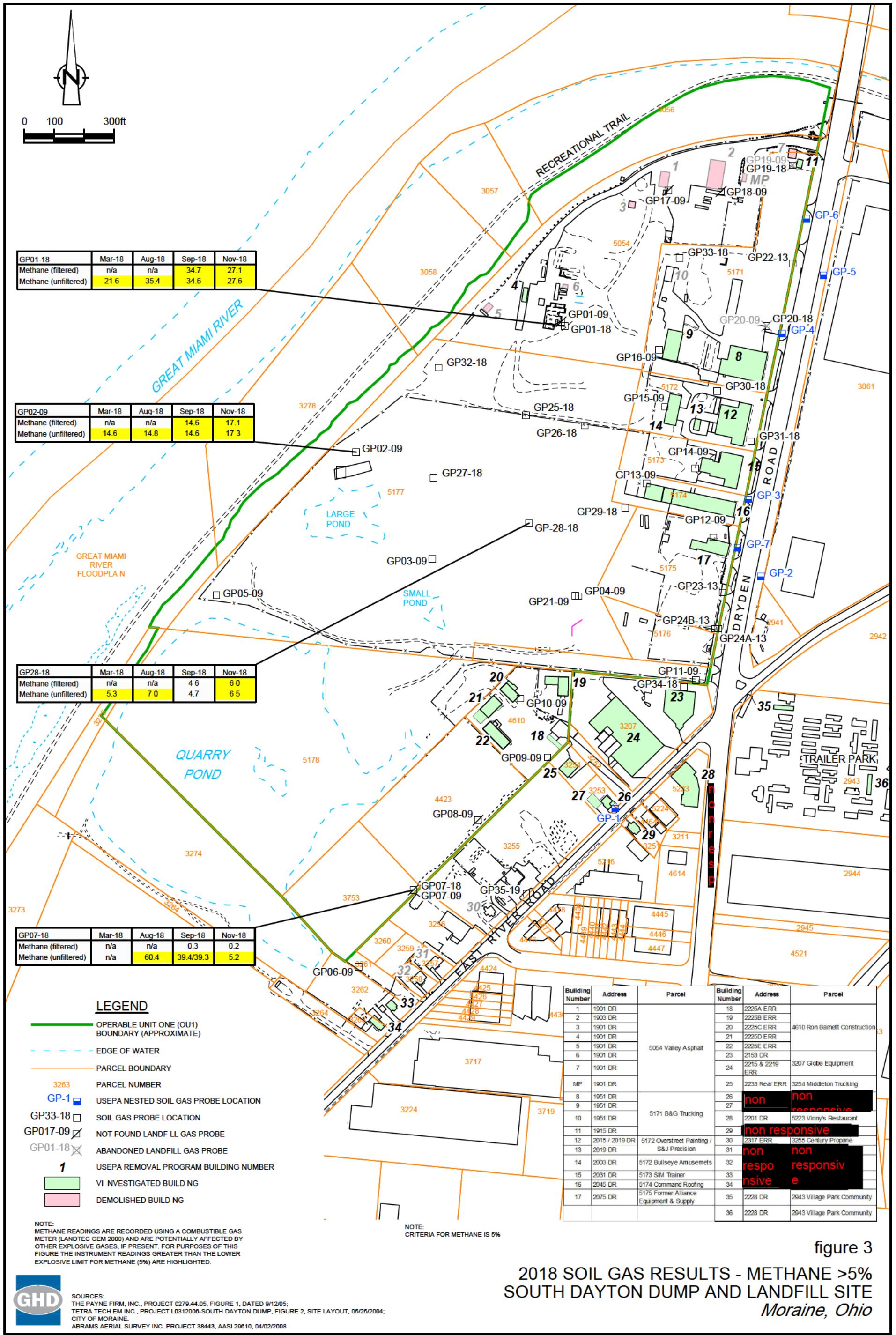
**SOIL GAS PROBE LOCATIONS
SOUTH DAYTON DUMP AND LANDFILL SITE
*Moraine, Ohio***



SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORAINA.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29810, 04/02/2008



SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORAIN.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008



SOURCES:
THE PAYNE FIRM, INC., PROJECT 0279.44.05, FIGURE 1, DATED 9/12/05;
TETRA TECH EM INC., PROJECT L0312006-SOUTH DAYTON DUMP, FIGURE 2, SITE LAYOUT, 05/25/2004;
CITY OF MORaine.
ABRAMS AERIAL SURVEY INC. PROJECT 38443, AASI 29610, 04/02/2008

Table 1

Investigative Location Completion Details
South Dayton Dump and Landfill Site
Moraine, Ohio

Location Identification	Type	Coordinates [1]		Elevation [2] (ft AMSL)	Ground Surface		Bottom of Hole Depth		Stratigraphy Description of Screened Interval	Notes
		Easting	Northing		ft bgs	ft AMSL	ft bgs	ft AMLS		
GP-1	gas probe	1485134.68	632491 37							USEPA soil gas probe. Construction details have been requested.
GP-2	gas probe	1485618.91	633264.65							USEPA soil gas probe. Construction details have been requested.
GP-3	gas probe	1485577.43	633522 98							USEPA soil gas probe. Construction details have been requested.
GP-4	gas probe	1485690.87	634075 08							USEPA soil gas probe. Construction details have been requested.
GP-5	gas probe	1485829.14	634269 86							USEPA soil gas probe. Construction details have been requested.
GP-6	gas probe	1485771.07	634459.12							USEPA soil gas probe. Construction details have been requested.
GP-7	gas probe	1485542.87	633361 35							USEPA soil gas probe. Construction details have been requested.
GP01-09	gas probe	1484953.26	634114.42	736.47	3 to 4	733.47 to 732.47	25	711.47	silt (fill), sand and gravel	
GP01-18	gas probe	1484966.01	634100 25	737.67	6 to 7	731.67 to 730.67	20	717.67	sandy clay (fill)	
GP02-09	gas probe	1484270.12	633680 04	723.81	7 to 8	716.81 to 715.81	20	703.81	fill, foundary sand	
GP03-09	gas probe	1484523.78	633323 95	714.95	4 to 5	710.95 to 709.95	15	699.95	sand	
GP04-09	gas probe	1485011.94	633199 83	727.42	12 to 13	715.42 to 714.42	20	707.42	sand	
GP05-09	gas probe	1483803.74	633202.65	725.84	7 to 8	718.84 to 717.84	20	705.84	sand and gravel (fill)	
GP06-09	gas probe	1484278.34	631963 21	723.77	9 to 10	714.77 to 713.77	20	703.77	sand and silt	
GP07-09	gas probe	1484460.29	632219 37	723.03	12 to 13	711.03 to 710.03	20	703.03	sand and gravel	
GP07-18	gas probe	1484459.43	632213.10	723.86	12 to 13	711.86 to 710.86	16	707.86	sand and gravel (native)	Could not be located due to stockpiled material. Replaced as GP07-18.
GP08-09	gas probe	1484676.27	632452.15	723.40	11.67 to 12.67	711.73 to 710.73	20	703.40	sand	
GP08-19*	gas probe	1484667.71	632452.15		11.67 to 12.67		20		sand and gravel	Replaced GP08-09, which appeared to be unusable
GP09-09	gas probe	1484908.15	632662.47	728.64	6.5 to 7.5	722.14 to 721.14	20	708.64	sand and silt	
GP10-09	gas probe	1484817.23	632858 08	730.49	17 to 18	713.49 to 712.49	25	705.49	sand and gravel	
GP11-09	gas probe	1485402.22	632919.18	730.48	8 to 9	722.48 to 721.48	25	705.48	sand and silt	
GP12-09	gas probe	1485461.15	633395.73	730.61	5 to 6	725.61 to 724.61	25	705.61	sand	
GP13-09	gas probe	1485238.28	633576 29	730.94	6 to 7	724.94 to 723.94	25	705.94	sand	
GP14-09	gas probe	1485401.19	633625 83	731.77	5 to 6	726.77 to 725.77	25	706.77	sand and gravel	
GP15-09	gas probe	1485299.60	633831 22	733.75	9 to 10	724.75 to 723.75	25	708.75	sand and silt	
GP16-09	gas probe	1485279.60	634021.76	735.17	7 to 8	728.17 to 727.17	25	710.17	sand and silt	
GP17-09	gas probe	1485310.58	634552 85	737.92	4 to 5	733.92 to 732.92	25	712.92	foundary sand (fill)	Could not be located due to reclaimed asphalt stockpiles
GP18-09	gas probe	1485487.25	634549.78	737.65	3 to 4	734.65 to 733.65	25	712.65	sand	Could not be located due to reclaimed asphalt stockpiles
GP19-09	gas probe	1485725.54	634637.49	734.23	4 to 5	730.23 to 729.23	25	709.23	sand (fill)	Removed on January 24, 2018 and replaced as GP19-18
GP19-18	gas probe	1485725.98	634632.68	734.19	11 to 12	723.19 to 722.19	20	714.19	silty sand (fill)	
GP20-09	gas probe	1485638.89	634100.78	731.51	4 to 5	727.51 to 726.51	25	706.51	sand (fill)	Removed on January 24, 2018 and replaced as GP20-18
GP20-18	gas probe	1485634.38	634103.24	731.84	11 to 12	720.84 to 719.84	20	711.84	sandy gravel (fill)	
GP21-09	gas probe	1485001.00	633201 06	727.43	3 to 4	724.43 to 723.43	5	722.43	sand, silt, gravel	
GP22-13	gas probe	n/a	n/a	n/a	19 to 20	n/a	20	n/a	silty, sand and gravel (native)	
GP23-13	gas probe	n/a	n/a	n/a	17.5 to 18.5	n/a	20	n/a	sand and gravel (fill)	
GP24A-13	gas probe	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
GP24B-13	gas probe	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
GP25-18	gas probe	1484833.55	633800 05	733.12	15 to 16	718.12 to 717.12	20	713.12	sand (fill)	
GP26-18	gas probe	1485025.84	633768.62	731.98	13.4 to 14.4	718.58 to 717.58	20	711.98	silty sand (fill)	
GP27-18	gas probe	1484526.08	633585.18	723.89	7 to 8	716.89 to 715.89	20	703.89	sand (fill)	
GP28-18	gas probe	1484848.10	633443 03	724.44	11 to 12	713.44 to 712.44	20	704.44	n/a	

Table 1

Investigative Location Completion Details
South Dayton Dump and Landfill Site
Moraine, Ohio

Location Identification	Type	Coordinates [1]		Ground Surface	Elevation [2]		Screened Interval		Bottom of Hole Depth	Stratigraphy Description	Notes
		Easting	Northing		(ft AMSL)	ft bgs	ft AMSL	ft bgs	ft AMSL		
GP29-18	gas probe	1485165.16	633490.14	730.14	9 to 10	721.14 to 720.14		18.5	711.64	silty sand (fill)	
GP30-18	gas probe	1485470.09	633860.32	732.64	10.5 to 11.5	722.14 to 721.14		20	712.64	sand and gravel (native)	
GP31-18	gas probe	1485579.59	633710.41	731.77	8 to 9	723.77 to 722.77		20	711.77	sand (native)	
GP32-18	gas probe	1484514.28	633941.37	731.77	10 to 11	721.77 to 720.77		20	711.77	sand (fill)	
GP33-18	gas probe	1485345.08	634328.34	736.94	17.5 to 18.5	719.44 to 718.44		20	716.94	sandy gravel (native)	
GP34-18	gas probe	1485351.64	632901.71	730.93	10 to 11	720.93 to 719.93		24	706.93	sand and gravel (native)	
GP35-19*	gas probe	1484837.30	632207.77		10 to 11			20		sand and gravel	

Notes:

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

[2] - North American Vertical Datum of 1988 (NAVD88), U.S. Survey feet

N/A - Information not available.

mAMSL - metres above mean sea level.

mbgs - metres below ground surface.

* - Survey confirmation of coordinates is required

Table 2

Analytical Results Summary
Soil Sampling
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location:	GP01-18	GP07-18	GP08-19	GP19-18	GP20-18	GP25-18	GP26-18	GP27-18	GP28-18	GP29-18	GP30-18	GP31-18	GP32-18	GP33-18	GP34-18	GP35-19
Sample ID:	S-38443-012518-JC-064	SO-38443-080118-JC-121	S-38443-011519-JC-154	S-38443-012418-JC-063	S-38443-012218-JC-060	S-38443-012918-JC-066	S-38443-012918-JC-065	S-38443-013018-JC-067	S-38443-013018-JC-068	S-38443-013018-JC-069	S-38443-011718-JC-049	S-38443-011918-JC-056	S-38443-011018-JC-037	S-38443-012218-JC-058	SO-38443-073118-JC-120	S-38443-011519-JC-153
Sample Date:	1/25/2018	8/1/2018	1/15/2019	1/24/2018	1/22/2018	1/29/2018	1/29/2018	1/30/2018	1/30/2018	1/30/2018	1/17/2018	1/19/2018	1/10/2018	1/22/2018	7/31/2018	1/15/2019
Sample Depth:	5.5-6.5 ft bgs	12-13 ft bgs	11.67-12.67 ft BGS	11-12 ft bgs	11-12 ft bgs	15-16 ft bgs	13.5-14.5 ft bgs	7-8 ft bgs	15-16 ft bgs	9-10 ft bgs	10.5-11.5 ft bgs	8-9 ft bgs	10-11 ft BGS	17.5-18.5 ft bgs	10-11 ft bgs	10-11 ft BGS
Parameters																
Volatiles																
1,1,1-Trichloroethane	µg/kg	530 U	26 U	0.82 U	0.37 U	0.21 U	53 U	0.25 U	41 U	13000 U	0.23 UJ	0.20 U	0.22 UJ	0.30 U	0.20 U	0.78 U
1,1,2,2-Tetrachloroethane	µg/kg	460 U	22 U	1.4 U	0.42 U	0.24 U	45 U	0.29 U	35 U	11000 U	0.26 U	0.23 U	0.34 U	0.23 U	1.4 U	1.4 U
1,1,2-Trichloroethane	µg/kg	440 U	21 U	1.1 U	0.64 U	0.36 U	43 U	0.43 U	33 U	11000 U	0.39 U	0.35 U	0.50 U	0.34 U	1.1 U	1.1 U
1,1-Dichloroethane	µg/kg	590 U	29 U	0.69 U	0.54 U	0.30 U	58 U	0.36 U	45 U	15000 U	0.33 U	0.29 U	0.32 U	0.43 U	0.66 U	0.66 U
1,1-Dichloroethene	µg/kg	680 U	33 U	0.90 U	0.88 U	0.50 U	68 U	0.60 U	52 U	17000 U	0.54 U	0.48 U	0.52 U	0.70 U	0.86 U	0.86 U
1,2,4-Trichlorobenzene	µg/kg	490 U	24 U	0.57 U	0.39 U	0.22 U	49 U	0.98 J	38 U	12000 U	0.24 U	0.21 U	0.23 U	0.31 U	0.54 U	0.55 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	910 U	44 U	3.6 U	1.1 U	0.63 U	90 U	0.75 U	69 U	23000 U	0.68 U	0.60 U	0.65 U	0.59 U	3.4 U	3.4 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	440 U	21 U	0.77 U	0.57 U	0.32 U	43 U	0.39 U	33 U	11000 U	0.35 U	0.31 U	0.34 U	0.31 U	0.73 U	0.73 U
1,2-Dichlorobenzene	µg/kg	340 U	17 U	1.1 U	0.36 U	0.20 U	34 U	0.24 U	200 J	8500 U	0.22 U	0.20 U	0.21 U	0.28 U	1.1 U	1.1 U
1,2-Dichloroethane	µg/kg	570 U	28 U	0.77 U	0.47 U	0.27 U	56 U	0.32 U	43 U	14000 U	0.29 U	0.26 U	0.28 U	0.38 U	0.73 U	0.74 U
1,2-Dichloropropane	µg/kg	570 U	28 U	0.85 U	0.50 U	0.28 U	56 U	0.34 U	43 U	14000 U	0.31 U	0.27 U	0.30 U	0.40 U	0.27 U	0.81 U
1,3-Dichlorobenzene	µg/kg	720 U	35 U	0.82 U	0.47 U	0.27 U	71 U	0.32 U	55 U	18000 U	0.29 U	0.26 U	0.28 U	0.25 U	0.78 U	0.78 U
1,4-Dichlorobenzene	µg/kg	510 U	25 U	0.88 U	0.57 U	0.32 U	51 U	0.39 U	2900 J	13000 U	0.35 U	0.31 U	0.34 U	0.31 U	0.84 U	0.84 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	950 U	46 U	3.6 U	2.1 U	1.2 U	94 U	0.63 J	270 J	24000 U	1.2 J	1.1 U	1.2 U	1.6 U	3.4 U	3.4 U
2-Hexanone	µg/kg	1600 U	79 U	4.1 U	0.94 U	0.53 U	160 U	0.64 U	120 U	40000 U	0.58 U	0.51 U	0.56 U	0.51 U	3.9 U	3.9 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	760 U	37 U	3.7 U	1.4 U	0.82 U	75 U	0.98 U	58 U	19000 U	0.88 U	0.79 U	0.85 U	0.78 U	3.5 U	3.5 U
Acetone	µg/kg	1800 U	130 U	21 U	20 U	2.8 U	180 U	15 J	880 J	46000 U	44 U	2.7 U	8.3 U	4.0 U	2.7 U	20 U
Benzene	µg/kg	460 U	22 U	0.70 U	0.52 U	0.29 U	45 U	0.35 U	35 U	11000 U	0.36 J	0.43 J	0.31 U	0.41 U	0.28 U	0.67 U
Bromodichloromethane	µg/kg	340 U	17 U	0.68 U	0.54 U	0.30 U	34 U	0.36 U	26 U	8500 U	0.33 U	0.29 U	0.32 U	0.43 U	0.65 U	0.65 U
Bromoform	µg/kg	440 U	21 U	2.4 U	0.65 U	0.37 U	43 U	0.44 U	33 U	11000 U	0.40 U	0.35 U	0.38 U	0.52 U	2.3 U	2.3 U
Bromomethane (Methyl bromide)	µg/kg	530 U	26 U	0.99 U	0.96 U	0.54 U	53 U	0.65 U	41 U	13000 U	0.59 U	0.52 U	0.57 U	0.76 U	0.94 U	0.94 U
Carbon disulfide	µg/kg	340 U	17 U	1.2 U	1.3 J	0.19 U	34 U	0.23 U	26 U	8500 U	0.21 U	0.19 U	0.20 U	0.27 U	1.1 U	1.1 U
Carbon tetrachloride	µg/kg	510 U	25 U	3.3 U	0.41 U	0.23 U	51 U	0.28 U	39 U	13000 U	0.25 U	0.22 U	0.24 U	0.32 U	3.1 U	3.1 U
Chlorobenzene	µg/kg	100000 J	28 U	0.92 U	0.54 U	0.30 U	2000 J	5.4 J	1900 J	14000 U	0.33 U	0.29 U	0.32 U	0.43 U	0.87 U	0.87 U
Chloroethane	µg/kg	530 U	26 U	1.2 U	0.62 U	0.35 U	53 U	0.42 U	41 U	13000 U	0.38 U	0.34 U	0.36 U	0.49 U	1.2 U	1.2 U
Chloroform (Trichloromethane)	µg/kg	460 U	22 U	0.79 U	0.37 U	0.21 U	45 U	0.25 U	35 U	11000 U	0.23 U	0.20 U	0.22 U	0.30 U	0.75 U	0.75 U
Chloromethane (Methyl chloride)	µg/kg	340 U	17 U	1.0 U	0.62 U	0.35 U	34 U	0.42 U	26 U	8500 U	0.38 U	0.34 U	0.36 U	0.49 U	0.99 U	0.99 U
cis-1,2-Dichloroethene	µg/kg	670 U	32 U	0.65 U	17 J	1.8 J	66 U	0.31 U	51 U	16000 U	0.88 J	0.25 U	0.27 U	0.36 U	0.62 U	0.62 U
cis-1,3-Dichloropropene	µg/kg	440 U	21 U	1.4 U	0.42 U	0.24 U	43 U	0.29 U	33 U	11000 U	0.26 U	0.23 U	0.25 U	0.34 U	1.4 U	1.4 U
Cyclohexane	µg/kg	570 U	28 U	1.4 U	0.34 U	0.19 U	56 U	0.23 U	43 U	14000 U	0.21 U	0.19 U	0.20 U	0.27 U	1.3 U	1.3 U
Dibromochloromethane	µg/kg	650 U	31 U	2.8 U	0.49 U	0.28 U	64 U	0.33 U	49 U	16000 U	0.30 U	0.27 U	0.29 U	0.39 U</		

Table 3

**Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio**

Sample Location											GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID											SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date											8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Response Action Level (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level	a	b	c	d	e			
Volatiles																
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	32 U	34 U	2.2 U	33	2.1 J	2.4		
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U		
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U		
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	21 U	22 U	1.6 J	4.7	29	0.11 U		
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	27 U	28 U	1.8 U	0.13 U	1.3 U	0.13 U		
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	140 U	150 U	9.9 UJ	0.73 UJ	7.3 UJ	0.73 UJ		
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	61 U	64 U	15	17	19	16		
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	67 U	70 U	4.6 U	0.34 U	3.4 U	0.34 U		
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U		
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	38 U	39 U	2.6 U	0.19 U	1.9 U	0.19 U		
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	48 U	50 U	3.3 U	0.24 U	2.4 U	0.24 U		
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	110 J	120 J	310	0.22 U	2.2 U	0.22 J		
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	63 U	66 U	4.3 U	4.8	5.7 J	4.4		
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	28 U	29 U	1.9 U	0.14 U	1.4 U	0.14 U		
1,3-Dichlorobenzene	µg/m³	541-73-1	6 9	-	-	-	-	-	77 U	81 U	5.3 U	0.39 U	3.9 U	0.39 U		
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	76 U	80 U	5.2 U	0.38 U	3.8 U	0.38 U		
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	57 U	60 U	3.9 U	0.29 U	2.9 U	0.29 U		
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	3500	3600	2.5 U	0.18 U	26	0.18 U		
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	120 U	120 U	8.0 U	9.8	24 J	10		
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	65 U	67 U	4.4 U	0.33 U	3.3 U	0.33 U		
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	47 U	49 U	8.9 J	1.9 J	2.4 U	1.5 J		
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	70 U	73 U	4.8 U	0.35 U	3.5 U	0.35 U		
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	64 U	67 U	4.5 J	5.7	6.5 J	5.3		
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4 3	43800	-	-	-	-	160 U	170 U	11 U	0.86 J	8.0 U	1.4 J		
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	660 U	690 U	58 J	100	460	78		
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	30 U	31 U	2.0 U	0.15 U	1.5 U	0.15 U		
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	2200 ^a	2100 ^a	9.6	0.57 J	3.0 J	0.41 J		
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	80 U	84 U	5.5 U	0.40 U	4.0 U	0.40 U		
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U		
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	98 U	100 U	6.7 U	0.50 U	5.0 U	0.50 U		
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	25 U	26 U	1.7 U	0.35 J	1.2 U	0.19 J		
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	4000	3800	740	0.81 J	610	0.74 J		
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	58 J	54 J	15 J	26	66	15		
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	47 U	49 U	3.3 U	0.24 U	2.4 U	0.24 U		
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	110000 ^a	110000 ^a	3.1 U	0.23 U	2.3 U	0.23 U		
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	580	540	470	0.52 J	32	1.1		
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	95 J	73 J	4.6 J	0.53	3.1 J	0.27 J		
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	37 U	38 U	2.5 U	18	1.9 U	0.19 U		
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3 5	1310	-	-	-	-	65 U	68 U	4.5 U	1.2	3.3 U	0.45 J		
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	130 J	140 J	10 J	0.93	2.4 U	0.24 U		
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	67 U	69 U	4.6 U	0.34 U	3.4 U	0.34 U		
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	1800	1900	310	0.68 J	8.2 J	0.41 J		
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	62 U	65 U	4.3 U	0.46 J	3.1 U	0.44 J		
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	71 U	74 U	4.9 U	0.36 U	3.6 U	0.36 U		
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-	67 U	70 U	330	1.1	9.8	570		
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-	500 ^a	500 ^a	4.2 J	3.2	24	2.9		
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-	160 U	170 U	11 UJ	0.83 UJ	8.3 UJ	0.83 UJ		

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP01-18 SVA-38443-082418-GL-036 8/24/2018	GP01-18 SVA-38443-082418-GL-037 8/24/2018	GP02-09 SVA-38443-081518-GL-011 8/15/2018	GP03-09 SVA-38443-081418-GL-004 8/14/2018	GP04-09 SVA-38443-081418-GL-002 8/14/2018	GP05-09 SVA-38443-081418-GL-003 8/14/2018								
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-	1300	1200	220	0.92 J	22	0.94 J
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-	46 U	48 U	14 J	2.3 J	8.1 J	4.6 J
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-	58 U	61 U	4.0 U	0.29 U	2.9 U	0.29 U
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	290	290	16	15	84	13
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-	64 U	67 U	4.4 U	0.32 U	3.2 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-	120 U	130 U	8.3 U	0.61 U	6.1 U	0.61 U
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-	220 U	230 U	15 U	1.2 J	11 U	1.1 J
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	93 U	98 U	6.4 UJ	1.1 J	4.7 UJ	1.1 J
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	50 U	52 U	3.8 J	3.5	2.8 J	3.3
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-	1600	1600	130	0.57 J	5.0 J	0.54 J
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-	55 U	57 U	3.7 U	3.0	5.0 J	2.7
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-	52 U	55 U	6.8 J	6.0	28	5.4
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-	49 U	51 U	3.4 U	3.5	2.5 U	3.2
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	23 U	24 U	6.2 J	2.3 J	8.0 J	7.4
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	72 U	75 U	5.7 J	0.36 U	3.6 U	0.36 U
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	54 U	56 U	3.7 U	550	2.7 U	7.0
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-	37 U	38 U	2.5 U	1.3 J	1.9 U	1.2 J
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-	160	170	12	15	65	13
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	39 U	41 U	2.7 U	0.20 U	2.0 U	0.20 U
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	43 U	45 U	3.0 U	0.22 U	2.2 U	0.22 U
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-	38 U	40 U	2.6 U	120 ^a	1.9 U	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	27 U	28 U	1.8 U	2.6	1.3 U	4.6
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-	47 U	49 U	3.2 U	0.72 J	2.4 U	0.60 J
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-	30 U	32 U	2.1 U	0.15 U	1.5 U	0.15 U
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	1000 ^{ad}	960 ^{ad}	65	0.18 U	1.8 U	0.18 U
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-	290	290	22.8	21	112	18.4
Total VOCs	µg/m³	-	-	-	-	-	-	-	127613	127337	2793.7	982.12	1668.3	799.21

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled

"Recommendations Regarding Response Action Levels and Timelines for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location	GP06-09 SVA-38443-082118-GL-019 8/21/2018	GP07-18 SVA-38443-082118-GL-018 8/21/2018	GP09-09 SVA-38443-082118-GL-021 8/21/2018	GP10-09 SVA-38443-082118-GL-020 8/21/2018	GP11-09 SVA-38443-081518-GL-012 8/15/2018	GP12-09 SVA-38443-082018-GL-013 8/20/2018								
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Response Action Level (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	
Volatiles														
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	0.49 J	3700 U	4.1 J	4.5	2.6	1.6 U
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	0.42 U	9500 U	4.2 U	1.0 U	0.42 U	4.2 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	0.11 U	2400 U	1.1 U	2.9	0.11 U	1.1 U
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	0.13 U	3000 U	1.3 U	0.34 U	0.13 U	1.3 U
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	0.73 UJ	16000 UJ	7.3 UJ	1.8 UJ	0.73 UJ	7.3 UJ
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	8.9	8400 J ^a	12	11	13	7.8 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	0.34 U	7600 U	3.4 U	0.85 U	0.34 U	3.4 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	0.42 U	9500 U	4.2 U	1.1 U	0.42 U	4.2 U
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	0.89	4300 U	1.9 U	0.48 U	0.19 U	1.9 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	0.22 U	5100 U	2.2 U	0.99 J	0.22 U	2.2 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	2.5	7200 U	4.5 J	2.9	3.7	3.2 U
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	0.14 U	3200 U	1.4 U	0.35 U	0.14 U	1.4 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6 9	-	-	-	-	-	0.63 J	8800 U	3.9 U	4.2	0.39 U	3.9 U
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	0.38 U	8700 U	3.8 U	0.96 U	0.38 U	3.8 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	0.29 U	6500 U	2.9 U	0.72 U	0.29 U	2.9 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	17	1800000	20 J	2.1 J	0.18 U	1.8 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	11	13000 U	13 J	12	4.7	7.8 J
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	7400 U	3.3 U	1.5 J	0.33 U	3.3 U
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	2.1	5400 U	2.4 U	1.7 J	0.61 J	4.1 J
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	7900 U	3.5 U	0.88 U	0.35 U	3.5 U
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	2.1	7300 U	4.0 J	2.6 J	3.4	3.2 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4 3	43800	-	-	-	-	1.8 J	18000 U	8.0 U	2.0 U	2.7	8.0 U
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	69 J	75000 UJ	95 J	96	41	130
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	0.15 U	3400 U	1.5 U	0.38 U	0.15 U	1.5 U
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	1.8	110000 ^a	2.5 J	1.7	0.39 J	1.8 U
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	0.40 U	9100 U	4.0 U	1.0 U	0.40 U	4.0 U
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	0.29 U	6700 U	2.9 U	0.74 U	0.29 U	2.9 U
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	0.50 U	11000 U	5.0 U	1.2 U	0.50 U	5.0 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	0.14 J	2800 U	1.2 U	0.31 U	0.20 J	1.2 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	0.72 J	6200 J	1.8 J	3.1	1.2	1.7 U
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	13	2200 U	34	4.7	36	31
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	0.24 U	5400 U	2.4 U	0.60 U	0.24 U	2.4 U
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	0.23 U	5100 U	2.3 U	0.56 U	0.23 U	2.3 U
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	5.6	3000 U	4.1 J	5.3	2.0	6.0 J
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	0.092 U	2100 U	0.92 U	0.23 U	0.46 J	0.96 J
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	0.38 J	4200 U	1.9 U	0.46 U	0.19 U	1.9 U
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3 5	1310	-	-	-	-	0.55 J	7500 U	3.3 U	0.83 U	3.4	3.3 J
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	5400 U	2.4 U	3.2	0.24 U	2.4 U
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	7600 U	3.4 U	0.84 U	0.34 U	3.4 U
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	2.5	230000 ^a	2.5 J	1.1 J	0.67 J	1.4 U
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.40 J	7100 U	3.1 U	0.78 U	0.39 J	3.1 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	8100 U	3.6 U	0.89 U	0.36 U	3.6 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-	1.2	7600 U	3.6 J	9.0	1.2	3.7 J
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-	2.8	19000 UJ	11	3.4	2.4	3.0 U
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-	0.83 UJ	8.3 UJ	2.1 UJ	0.83 UJ	0.83 UJ	8.3 UJ

Table 3

**Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio**

Sample Location							GP06-09 SVA-38443-082118-GL-019 8/21/2018	GP07-18 SVA-38443-082118-GL-018 8/21/2018	GP09-09 SVA-38443-082118-GL-021 8/21/2018	GP10-09 SVA-38443-082118-GL-020 8/21/2018	GP11-09 SVA-38443-081518-GL-012 8/15/2018	GP12-09 SVA-38443-082018-GL-013 8/20/2018		
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-	15	630000 ^a	3.5 J	1.7 J	1.1 J	1.1 U
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-	57	5200 U	140	160	2.5 J	27 J
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-	1.4 J	9800 J ^a	4.4 J	2.6 J	0.68 J	2.9 U
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	12	590000	47	13	11	7.4 J
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	7300 U	3.2 U	0.81 U	1.4 J	3.2 U
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-	0.61 U	14000 U	6.1 U	1.5 U	0.61 U	6.1 U
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-	7.0	25000 U	14 J	3.6 J	2.3	11 U
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	0.79 J	11000 UJ	4.7 UJ	1.5 J	1.0 J	4.7 UJ
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	1.8 J	5700 U	2.5 U	2.4 J	2.7	2.5 U
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-	12	1100000 ^a	14 J	3.4 J	0.50 J	1.9 U
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-	1.2 J	6200 U	2.8 U	1.5 J	2.2	2.8 U
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-	4.9	180000 ^a	20	5.5	4.5	2.9 J
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-	1.2	5600 U	2.5 U	1.7 J	2.2	2.5 U
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	3.3 J	2600 U	5.1 J	8.5 J	1.1 J	11 J
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	8200 U	3.6 U	0.91 U	0.36 U	3.6 U
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	22	6100 U	26	13	1.1 J	92
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-	0.19 U	4200 U	4.7 J	3.7 J	0.88 J	1.9 U
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-	23	1700000 ^a	38	13	9.8	4.5 U
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	0.59 J	4500 U	2.2 J	1.4 J	0.20 U	2.0 U
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	4900 U	2.2 U	0.54 U	0.22 U	2.2 U
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-	0.28 J	4400 U	690 ^{ab}	34 ^a	0.19 U	690 ^{ab}
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	8.7	3100 U	2.9 J	0.76 J	2.4	2.0 J
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-	0.60 J	5400 U	2.4 U	1.5 J	0.62 J	2.4 U
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-	0.15 U	3500 U	1.5 U	0.38 U	0.15 U	1.5 U
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	0.18 U	4100 U	1.8 U	1.7	0.61	1.8 U
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-	16.9	770000 ^a	67	18.5	15.5	10.3
Total VOCs	µg/m³	-	-	-	-	-	-	-	335.16	7274400	1290.9	466.85	184.11	1037.26

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled

"Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016

- Concentration was greater than applicable criteria.

Table 3

**Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio**

Sample Location							GP13-09 SVA-38443-082018-GL-014 8/20/2018	GP14-09 SVA-38443-082018-GL-015 8/20/2018	GP14-09 SVA-38443-082018-GL-016 8/20/2018	GP15-09 SVA-38443-082018-GL-017 8/20/2018	GP16-09 SVA-38443-082318-GL-028 8/23/2018	GP19-18 SVA-38443-082318-GL-034 8/23/2018
Sample ID												
Sample Date												
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial				
				a	b	c	d	e				
Volatiles												
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	14	1 3 J	1.3 J	8.5 J
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	310 ^a	1 5 J	1.7 J	3200 ^a
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	0.32 J	0.54 U	0.54 U	6.7 J
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	0.73 UJ	2.9 UJ	2.9 UJ	22 UJ
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	8.4	5.1	5.0	11 J
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	0.34 U	1.4 U	1.4 U	10 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	0.19 U	0.76 U	0.76 U	5.6 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	0.24 U	0.96 U	0.96 U	7.1 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	8.6	0.89 U	0.89 U	6.6 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	2.2	1.4 J	1.3 J	9.5 U
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	0.14 U	0.57 U	0.57 U	4.2 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6 9	-	-	-	-	-	0.39 U	1.6 U	1.6 U	12 U
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	0.38 U	1.5 U	1.5 U	11 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	0.29 U	1.2 U	1.2 U	8.5 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.44 J	0.73 U	0.73 U	5.4 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	5.9	5 9 J	2.6 J	17 U
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	1.3 U	1.3 U	9.7 U
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	0.97 J	0.95 U	0.95 U	7.0 U
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	1.4 U	1.4 U	10 U
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	1.9 J	1.3 U	1.3 U	9.6 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4 3	43800	-	-	-	-	1.1 J	3.2 U	3.2 U	24 U
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	58	54 J	28 J	98 U
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	0.15 U	0.60 U	0.60 U	4.4 U
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	0.32 J	0.72 U	0.72 U	5.3 U
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	0.40 U	1.6 U	1.6 U	12 U
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	0.50 U	2.0 U	2.0 U	15 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	0.12 U	0.50 U	0.50 U	3.7 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	13	1.1 J	0.69 U	5.1 U
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	14	5 9 J	4.2 J	26 J
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	0.24 U	0.96 U	0.96 U	9.2 J
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	0.23 U	0.90 U	0.90 U	6.7 U
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	0.94	7.3	5.4	7.7 J
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	0.97	0.37 U	0.37 U	12 J
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	3.6	7.6	7.4	17 J
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3 5	1310	-	-	-	-	0.46 J	1.3 U	1.3 U	9.8 U
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	3.5	3.1 J	1400
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	1.3 U	1.3 U	9.9 U
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	3.7	0.55 U	0.55 U	4.1 U
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	1.3 U	1.3 U	9.3 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-	10	2 3 J	2.3 J	10 U
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-	1.2	1.2 U	1.2 U	8.7 U
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-	0.83 UJ	3.3 UJ	3.3 UJ	25 UJ

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18													
Sample ID	SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034													
Sample Date	8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018													
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-	1.1 J	0.45 U	0.73 J	3.3 U	210	340					
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-	1.6 J	4.2 J	2.5 J	6.8 U	24 U	76 J					
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U					
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	5.1	3.0 J	2.8 J	15 U	54 U	47					
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	1.3 U	1.3 U	9.6 U	33 U	9.6 U					
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-	0.61 U	2.5 U	2.5 U	18 U	63 U	18 U					
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-	2.4	4.4 U	5.0 J	33 U	110 U	33 U					
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	1.0 J	1.9 UJ	1.9 UJ	14 UJ	49 UJ	14 U					
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	2.0 J	1.3 J	1.3 J	7.5 U	26 U	7.5 U					
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-	0.44 J	0.77 U	0.77 U	5.7 U	20 U	330					
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-	1.1 J	1.1 U	1.1 U	8.1 U	28 U	8.1 U					
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-	2.6	1.5 J	1.6 J	7.8 U	27 U	18 J					
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-	0.82 J	0.99 U	0.99 U	7.3 U	25 U	7.3 U					
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	4.4 J	2.6 J	0.64 J	5.3 J	12 U	8.3 J					
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U					
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	1.3 J	330	370	25 J	28 U	8.0 U					
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-	0.57 J	0.74 U	1.0 J	5.5 U	19 U	5.5 U					
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-	4.8	1.9 J	1.9 J	13 U	47 U	71					
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	0.20 U	1.0 J	1.0 J	57	20 U	30					
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	0.87 U	0.87 U	6.4 U	22 U	6.4 U					
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-	1.3	520 ^{ab}	510 ^{ab}	3400 ^{abc}	20 U	13 J					
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	0.88 J	1.6 J	1.7 J	4.0 U	14 U	4.0 U					
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-	6.6	0.95 U	0.95 U	7.0 U	24 U	7.0 U					
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-	0.15 U	0.61 U	0.61 U	4.5 U	16 U	4.5 U					
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	3.1	0.73 U	0.73 U	14 J	370 ^a	2500 ^{ad}					
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-	7.7	4.5	4.4	ND	ND	65					
Total VOCs	µg/m³	-	-	-	-	-	-	-	508.83	968.5	966.87	8199.4	11205	6982.5					

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location											Outdoor Ambient Air near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID											SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date											8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e			Duplicate
Volatiles																
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	0.16 U	22 U	3.3 U	0.27 J	0.26 J	1.6 J		
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U		
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U		
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	0.11 U	14 U	4.3 J	1.7	1.7	0.42 U		
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	0.13 U	18 U	2.7 U	1.7	1.7	0.54 U		
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	0.73 U	99 U	15 UJ	0.73 U	0.73 U	2.9 U		
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	0.31 U	42 U	6.2 U	1.6	1.5	3.0 J		
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	0.34 U	46 U	6.8 U	0.34 U	0.34 U	1.4 U		
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	1.7 U		
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	0.19 U	26 U	3.8 U	1.0	0.95	0.76 U		
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	0.24 U	33 U	4.8 U	0.24 U	0.24 U	0.96 U		
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	0.22 U	30 U	4.5 U	0.22 U	0.22 U	0.89 U		
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	0.32 U	43 U	6.4 U	0.37 J	0.37 J	1.3 U		
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	0.14 U	19 U	2.8 U	0.14 U	0.14 U	0.57 U		
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	0.39 U	53 U	7.8 U	0.58 J	0.64 J	1.6 U		
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	0.38 U	52 U	7.7 U	0.38 U	0.38 U	1.5 U		
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	0.73 J	39 U	5.8 U	0.29 U	0.29 U	1.2 U		
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.18 U	25 U	33 J	0.18 U	0.18 U	1.2 J		
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	1.2 J	80 U	12 U	13	12	17		
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	44 U	6.5 U	0.33 U	0.33 U	1.3 U		
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	0.24 U	32 U	4.8 U	2.9	2.7	2.6 J		
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	48 U	7.0 U	0.35 U	0.35 U	1.4 U		
4-Ethyl tolue	µg/m³	622-96-8	72 J	-	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 J	1.3 U		
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4.3	43800	-	-	-	-	4.3	110 U	16 U	3.8	0.80 U	3.2 U		
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	12	450 U	67 U	66	56	77		
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	0.15 U	20 U	3.0 U	0.15 U	0.15 U	0.60 U		
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	0.45 J	24 U	15	0.83	0.89	0.84 J		
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	0.40 U	55 U	8.1 U	0.40 U	0.40 U	1.6 U		
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U		
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	0.50 U	67 U	9.9 U	0.50 U	0.50 U	2.0 U		
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	0.12 U	17 U	2.5 U	0.12 U	0.30 J	0.98 J		
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	1.0	24 U	1700	73	67	3.1 J		
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	0.26 J	13 U	13 J	7.6	8.5	14		
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	0.44 J	32 U	4.8 U	0.24 U	0.24 U	0.96 U		
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	0.23 U	31 U	4.5 U	0.37 J	0.38 J	0.90 U		
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	1.7	18 U	84	1.5 J	7.2 J	1.8 J		
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	0.092 U	13 U	1.8 U	0.42 J	0.36 J	0.37 U		
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	0.19 U	25 U	3.7 U	0.37 J	0.36 J	1.8 J		
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	1310	-	-	-	-	1.1	45 U	6.6 U	0.33 U	0.33 U	1.8 J		
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	770	16	22	23	0.95 U		
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	46 U	6.7 U	0.34 U	0.34 U	1.3 U		
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	0.14 U	19 U	35	10	10	0.55 U		
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	43 U	6.3 U	0.31 U	0.31 U	1.3 U		
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	49 U	7.2 U	0.36 U	0.36 U	1.4 U		
Dichlorodiflu																

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location											Outdoor Ambient Air near GP19	GP20-18	GP21-09	GP22-13	GP22-13	GP23-13
Sample ID											SVA-38443-082318-GL-033	SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025
Sample Date											8/23/2018	8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e			Duplicate
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-	0.72 J	15 U	52	6.4	7.5	1.2 J		
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-	0.62 J	82 J	14 J	1.9 J	3.1 J	3.6 J		
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U		
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	0.52 U	71 U	10 U	4.4	4.7	14		
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 U	1.3 U		
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-	0.61 U	83 U	12 U	0.61 U	0.61 U	2.5 U		
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-	1.6 J	150 U	22 U	1.2 J	4.1 J	4.4 U		
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	0.47 U	64 U	9.4 UJ	0.47 U	0.79 J	1.9 U		
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	0.25 U	34 U	5.1 U	0.49 J	0.40 J	1.0 U		
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-	0.22 J	26 U	4.0 J	1.9 J	2.3	1.5 J		
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-	0.28 U	37 U	5.5 U	0.28 U	0.28 U	1.1 U		
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-	0.26 U	36 U	5.3 U	1.3	1.2	5.1		
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-	0.25 U	34 U	4.9 U	0.25 J	0.27 J	0.99 U		
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	0.12 U	16 U	2.3 U	2.3 J	1.9 J	4.1 J		
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	49 U	7.2 U	1.8 J	1.7 J	1.4 U		
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	0.78 J	37 U	5.4 U	1.9	1.3 J	1.1 U		
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-	0.19 U	25 U	3.7 U	0.19 U	0.19 U	0.74 U		
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-	0.70 J	61 U	9.0 U	1.3	1.7	7.8		
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	0.20 U	37 J	4.0 U	3.5	3.5	1.8 J		
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	30 U	4.4 U	0.22 U	0.22 U	0.87 U		
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-	0.19 U	6700 ^{abc}	3.9 U	2.7	2.3	600 ^{ab}		
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	1.2	18 U	2.7 U	0.13 U	0.36 J	7.3		
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-	0.52 J	32 U	4.8 U	0.24 U	0.24 U	0.95 U		
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-	0.15 U	21 U	3.1 U	0.15 U	0.15 U	0.61 U		
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	0.18 U	25 U	3.6 U	42	38	0.73 U		
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-	ND	ND	ND	5.7	5.9	19.1		
Total VOCs	µg/m³	-	-	-	-	-	-	-	30.84	7589	1970.3	290.25	279.35	279.52		

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

JJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled

"Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

 - Concentration was greater than applicable criteria.

Table 3

**Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio**

Sample Location							GP24A-13 SVA-38443-082218-GL-024 8/22/2018	GP24B-13 SVA-38443-082218-GL-023 8/22/2018	GP25-18 SVA-38443-081418-GL-006 8/14/2018	GP26-18 SVA-38443-081418-GL-005 8/14/2018	GP27-18 SVA-38443-081518-GL-010 8/15/2018	GP28-18 SVA-38443-081518-GL-007 8/15/2018
Sample ID												
Sample Date												
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial				
				a	b	c	d	e				
Volatiles												
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	2.2	0.69 J	3.8 J	
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	0.42 U	0.42 U	8.4 U	
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	0.29 U	0.29 U	5.9 U	
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	0.11 U	0.11 U	29	
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	0.13 U	0.13 U	24	
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	0.73 U	0.73 UJ	15 UJ	
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	2.6	1.6	12 J	
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	0.34 U	0.34 U	6.8 U	
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	0.42 U	0.42 U	8.4 U	
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	0.19 U	0.19 U	3.8 U	
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	0.24 U	0.24 U	4.8 U	
1,2-Dichlortetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	0.22 U	0.22 U	28	
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	0.58 J	0.46 J	6.4 U	
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	0.14 U	0.14 U	2.8 U	
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	2.7	0.39 U	7.8 U	
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	0.38 U	0.38 U	7.7 U	
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	0.29 U	0.29 U	5.8 U	
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.41 J	1.2 J	10 J	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	18	5.3	12 U	
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	0.33 U	6.5 U	
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	2.8	0.90 J	4.8 U	
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	0.35 U	7.0 U	
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	0.59 J	0.52 J	6.5 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4.3	43800	-	-	-	-	3.9	1.1 J	16 U	
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	75	22	67 U	
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	0.15 U	0.15 U	3.0 U	
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	1.2	0.43 J	3.6 U	
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	0.40 U	0.40 U	8.1 U	
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	0.29 U	0.29 U	5.9 U	
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	0.50 U	0.50 U	9.9 U	
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	0.18 J	0.12 U	2.5 U	
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	0.96	2.3	720	
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	14	12	28 J	
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	36	0.34 J	4.8 U	
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	0.23 J	0.23 U	4.7 J	
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	1.8	17	45	
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	0.14 J	0.092 U	1.8 U	
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	0.29 J	0.19 U	3.7 U	
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	1310	-	-	-	-	0.67 J	0.47 J	6.6 U	
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	0.24 U	4.8 U	
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	0.34 U	6.7 U	
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	0.14 U	0.53 J	24 J	
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	0.31 U	6.3 U	
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	0.36 U	7.2 U	
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-	1.5	1.2	12 J	
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-	2.0	1.9	5.9 U	
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-	0.83 U	0.83 UJ	17 UJ	

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP24A-13 SVA-38443-082218-GL-024 8/22/2018	GP24B-13 SVA-38443-082218-GL-023 8/22/2018	GP25-18 SVA-38443-081418-GL-006 8/14/2018	GP26-18 SVA-38443-081418-GL-005 8/14/2018	GP27-18 SVA-38443-081518-GL-010 8/15/2018	GP28-18 SVA-38443-081518-GL-007 8/15/2018								
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level	Removal Management Level Commercial						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	0.76 J	4.7	38	140	3100	1100	
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	81	3.2 J	6.7 J	10 U	26 U	11 U	
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	1.4 J	0.29 U	5.9 U	13 U	34 U	71 J	
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	8.6	8.9	13 J	54	350	67	
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	0.32 U	0.32 U	6.5 U	15 U	37 U	15 U	
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	0.61 U	0.61 U	12 U	28 U	70 U	28 U	
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	1.1 U	21	40	50 U	130 U	51 U	
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200	0.47 U	0.47 UJ	9.4 UJ	21 UJ	54 UJ	21 UJ
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	0.31 J	0.25 U	5.1 U	11 U	29 U	13 J	
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	1.1 J	1.5 J	7.7 J	50 J	1800	390	
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	0.40 J	0.29 J	5.5 U	12 U	95 J	13 U	
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	2.9	3.1	6.1 J	18 J	310	12 U	
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	0.64 J	0.25 U	4.9 U	11 U	28 U	11 U	
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	4.5 J	1.4 J	2.3 U	7.5 J	13 U	5.2 U	
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U	
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000	0.27 U	1.9	5.4 U	12 U	31 U	12 U
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	2.3 J	0.19 U	3.7 U	8.3 U	21 U	8.5 U	
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	4.3	8.0	15	34	540	25 J	
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	2.3	1.1	4.0 U	8.9 U	23 U	21 J	
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	0.22 U	0.22 U	4.4 U	9.8 U	25 U	9.9 U	
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	0.75 J	0.19 U	3.9 U	110 ^a	22 U	11 J	
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	7.1	3.4	5.0 J	6.1 U	15 U	6.1 U	
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	0.66 J	0.59 J	4.8 U	11 U	27 U	11 U	
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	0.15 U	0.15 U	3.1 U	6.9 U	17 U	7.0 U	
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300	0.30 J	0.18 U	75	77	21 U	160 ^a
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	11.5	12	19.1	72	660	67	
Total VOCs	µg/m³	-	-	-	-	-	-	298.57	141.02	1166.1	3459.5	25557	7031	

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled

"Recommendations Regarding Response Action Levels and Timelines for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location	GP28-18 SVA-38443-081518-GL-008 8/15/2018 Duplicate	GP29-18 SVA-38443-081518-GL-009 8/15/2018	GP30-18 SVA-38443-082218-GL-027 8/22/2018	GP31-18 SVA-38443-082218-GL-026 8/22/2018	GP32-18 SVA-38443-082418-GL-035 8/24/2018	GP33-18 SVA-38443-082318-GL-029 8/23/2018								
Sample ID	SVA-38443-081518-GL-008	SVA-38443-081518-GL-009	SVA-38443-082218-GL-027	SVA-38443-082218-GL-026	SVA-38443-082418-GL-035	SVA-38443-082318-GL-029								
Sample Date	8/15/2018	8/15/2018	8/22/2018	8/22/2018	8/24/2018	8/23/2018								
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Response Action Level (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	
Volatiles														
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-	6.4 U	7.8 J	0.16 U	44 U	15	0.16 U
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4.2 U	0.42 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-	11 U	5.9 U	0.29 U	79 U	2.9 U	0.29 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-	20 J	4.7 J	0.11 U	28 U	1.5 J	0.11 U
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-	5.2 U	2.7 U	0.13 U	36 U	1.3 U	0.13 U
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-	28 UJ	15 UJ	0.73 U	190 U	7.3 U	0.73 UJ
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-	12 U	14 J	3.2	83 U	3.1 U	1.7
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-	13 U	6.8 U	0.34 U	91 U	3.4 U	0.34 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-	16 U	8.4 U	0.42 U	110 U	4.2 U	0.42 U
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-	7.4 U	3.8 U	0.19 U	51 U	1.9 U	0.19 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-	9.3 U	4.8 U	0.24 U	64 U	2.4 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	8.7 U	92	0.22 U	60 U	11 J	0.22 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-	12 U	7.6 J	0.85 J	86 U	3.2 U	0.37 J
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-	5.5 U	2.8 U	0.14 U	38 U	1.4 U	0.14 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	15 U	7.8 U	6.9	100 U	3.9 U	2.0
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-	15 U	7.7 U	0.38 U	100 U	3.8 U	0.38 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-	11 U	5.8 U	0.43 J	77 U	2.9 U	0.29 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	7.1 U	3.6 U	0.90 J	49 U	1.8 U	1.9 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-	23 U	12 U	12	160 U	5.9 U	5.4
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	13 U	6.5 U	0.33 U	87 U	3.3 U	0.33 U
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-	9.2 U	4.8 U	1.7 J	64 U	2.4 U	0.91 J
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	47 J	30 J	0.35 U	94 U	3.5 U	0.35 U
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	13 U	11 J	0.75 J	87 U	3.2 U	0.39 J
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MBK)	µg/m³	108-10-1	4.3	43800	-	-	-	-	31 U	16 U	1.1 J	210 U	8.0 U	1.0 J
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-	130 U	67 U	120	890 U	37 J	28
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-	5.8 U	3.0 U	0.15 U	40 U	1.5 U	0.15 U
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-	120 ^a	40	1.5	48 U	3.6 J	0.67
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-	16 U	8.1 U	0.40 U	110 U	4.0 U	0.40 U
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-	11 U	5.9 U	0.29 U	79 U	2.9 U	0.29 U
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-	19 U	9.9 U	0.50 U	130 U	5.0 U	0.50 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-	4.8 U	2.5 U	0.12 U	33 U	1.2 U	0.12 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	3700	4800	1.4	46 U	5.1 J	1.5
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-	38 J	17 J	65	270 J	69	1.6
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800	9.3 U	4.8 U	0.27 J	64 U	2.4 U	0.39 J
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-	2200 ^a	4.5 U	0.23 U	60 U	2.3 U	0.23 U
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-	17 J	14 J	3.0	35 U	4.7 J	7.8
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-	44	3.8 J	0.27 J	25 U	0.92 U	0.092 U
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800	7.2 U	3.7 U	0.19 U	110 J ^a	8.0 J	0.96
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	1310	-	-	-	-	13 U	6.6 U	3.5	89 U	3.3 U	0.89 J
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	34	95	0.24 U	1000	4.7 J	0.24 U
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	13 U	6.7 U	0.34 U	90 U	3.4 U	0.34 U
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-	210	36	0.14 U	37 U	1.4 U	0.14 U
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	12 U	6.3 U	0.31 U	84 U	3.1 U	0.31 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	14 U	7.2 U	0.36 U	96 U	3.6 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-	13 U	51	0.46 J	90 U	29	1.3
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-	13 J	14 J	2.7	79 U	3.0 U	1.1
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-	32 UJ	17 UJ				

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP28-18 SVA-38443-081518-GL-008 8/15/2018 Duplicate	GP29-18 SVA-38443-081518-GL-009 8/15/2018	GP30-18 SVA-38443-082218-GL-027 8/22/2018	GP31-18 SVA-38443-082218-GL-026 8/22/2018	GP32-18 SVA-38443-082418-GL-035 8/24/2018	GP33-18 SVA-38443-082318-GL-029 8/23/2018													
Sample ID																			
Sample Date																			
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	1400	790	1.1 J	30 U	2.1 J	1.0 J
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-											
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-											
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-											
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-											
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-											
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-											
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-											
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	120	1200											
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-											
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-											
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-											
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-											
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-											
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-											
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-											
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000											
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-											
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-											
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-											
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-											
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-											
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-											
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-											
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-											
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300		200 ^a									
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-		107									
Total VOCs	µg/m³	-	-	-	-	-	-	-		8944		6811.4		375.52		28830		841.7	131.45

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UU - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	GP34-18 SVA-38443-082218-GL-022 8/22/2018	Trip Blank TB-38443-082318-GL-001 8/23/2018												
Parameters	Units	CAS#	Max	USEPA Subslab VSL Commercial	Accelerated Action Level Commercial (8 hours)	Urgent Action Level Commercial (8 hours)	Chronic Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	
Volatiles														
1,1,1-Trichloroethane	µg/m³	71-55-6	33	73000	-	-	-	-				1.8	0.16 U	
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	7	-	-	-	-				0.42 U	0.42 U	
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	3	-	-	-	-				0.29 U	0.29 U	
1,1-Dichloroethane	µg/m³	75-34-3	3200	256	-	-	-	-				0.11 U	0.11 U	
1,1-Dichloroethene	µg/m³	75-35-4	24	2920	-	-	-	-				0.13 U	0.13 U	
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	29	-	-	-	-				0.73 UJ	0.73 U	
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	876	-	-	-	-				1.8	0.31 U	
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	1	-	-	-	-				0.34 U	0.34 U	
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	2920	-	-	-	-				0.42 U	0.42 U	
1,2-Dichloroethane	µg/m³	107-06-2	1	16	-	-	-	-				0.19 U	0.19 U	
1,2-Dichloropropane	µg/m³	78-87-5	ND	58	-	-	-	-				0.24 U	0.24 U	
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-				0.22 U	0.22 U	
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	876	-	-	-	-				0.39 J	0.32 U	
1,3-Butadiene	µg/m³	106-99-0	ND	14	-	-	-	-				0.14 U	0.14 U	
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-				2.3	0.39 U	
1,3-Dichloropropene	µg/m³	542-75-6	ND	102	-	-	-	-				ND	-	
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	37	-	-	-	-				0.38 U	0.38 U	
1,4-Dioxane	µg/m³	123-91-1	0.73 J	82	-	-	-	-				0.29 U	0.29 U	
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-				0.88 J	0.18 U	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	73000	-	-	-	-				7.8	0.59 U	
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-				0.33 U	0.33 U	
2-Hexanone	µg/m³	591-78-6	8.9 J	438	-	-	-	-				1.3 J	0.24 U	
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-				0.35 U	0.35 U	
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-				0.46 J	0.32 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4.3	43800	-	-	-	-				0.90 J	0.80 U	
Acetone	µg/m³	67-64-1	460	451000	-	-	-	-				35	3.3 U	
Allyl chloride	µg/m³	107-05-1	ND	15	-	-	-	-				0.15 U	0.15 U	
Benzene	µg/m³	71-43-2	110000	52	-	-	-	-				0.81	0.18 U	
Benzyl chloride	µg/m³	100-44-7	ND	8	-	-	-	-				0.40 U	0.40 U	
Bromodichloromethane	µg/m³	75-27-4	ND	11	-	-	-	-				0.29 U	0.29 U	
Bromoform	µg/m³	75-25-2	ND	372	-	-	-	-				0.50 U	0.50 U	
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	73	-	-	-	-				0.12 U	0.12 U	
Butane	µg/m³	106-97-8	8100	-	-	-	-	-				0.82 J	0.17 U	
Carbon disulfide	µg/m³	75-15-0	270 J	10200	-	-	-	-				21	0.097 U	
Carbon tetrachloride	µg/m³	56-23-5	36	68	-	-	680	6800				0.24 U	0.24 U	
Chlorobenzene	µg/m³	108-90-7	110000	730	-	-	-	-				0.23 U	0.23 U	
Chlorodifluoromethane	µg/m³	75-45-6	580	730000	-	-	-	-				4.6	0.29 J	
Chloroethane	µg/m³	75-00-3	550	146000	-	-	-	-				0.092 U	0.092 U	
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	18	-	-	180	1800				0.24 J	0.19 U	
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	1310	-	-	-	-				1.5	0.33 U	
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-				0.24 U	0.24 U	
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-				0.34 U	0.34 U	
Cyclohexane	µg/m³	110-82-7	230000	87600	-	-	-	-				0.20 J	0.14 U	
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-				0.31 U	0.31 U	
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-				0.36 U	0.36 U	
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	1460	-	-	-	-				1.8	0.34 U	
Ethylbenzene	µg/m³	100-41-4	140000	164	-	-	-	-				1.6	0.30 U	
Hexachlorobutadiene	µg/m³	87-68-3	ND	19	-	-	-	-				0.83 UJ	0.83 U	

Table 3

Analytical Results Summary and Commercial Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	GP34-18 SVA-38443-082218-GL-022 8/22/2018	Trip Blank TB-38443-082318-GL-001 8/23/2018													
Parameters	Units	CAS#	Max	USEPA Subslab VISL Commercial	Accelerated Response Action Level Commercial (8 hours)	Urgent Response Action Level Commercial (8 hours)	Chronic Response Action Level Commercial	Removal Management Level Commercial	a	b	c	d	e	0.93 J	0.11 U
Hexane	µg/m³	110-54-3	630000	10200	-	-	-	-						0.93 J	0.11 U
Isopropyl alcohol	µg/m³	67-63-0	160	2920	-	-	-	-						43	0.23 U
Isopropyl benzene	µg/m³	98-82-8	9800 J	5840	-	-	-	-						1.2 J	0.29 U
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-						6.7	0.52 U
Methyl methacrylate	µg/m³	80-62-6	1.4 J	10200	-	-	-	-						0.32 U	0.32 U
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	1570	-	-	-	-						0.61 U	0.61 U
Methylene chloride	µg/m³	75-09-2	40	8760	-	-	-	-						1.2 J	1.1 U
Naphthalene	µg/m³	91-20-3	1.5 J	12	-	-	-	120	1200					0.47 UJ	0.47 U
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-						0.25 U	0.25 U
N-Heptane	µg/m³	142-82-5	1100000	5840	-	-	-	-						1.3 J	0.19 U
N-Propylbenzene	µg/m³	103-65-1	95 J	14600	-	-	-	-						0.28 J	0.28 U
o-Xylene	µg/m³	95-47-6	180000	1460	-	-	-	-						2.2	0.26 U
Styrene	µg/m³	100-42-5	3.5	14600	-	-	-	-						0.53 J	0.25 U
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-						2.2 J	0.12 J
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-						0.36 U	0.36 U
Tetrachloroethene	µg/m³	127-18-4	550	584	-	-	5800	18000						66	0.27 U
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	29200	-	-	-	-						1.7 J	0.19 U
Toluene	µg/m³	108-88-3	1700000	73000	-	-	-	-						4.5	0.45 U
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-						1.3	0.20 U
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-						0.22 U	0.22 U
Trichloroethene	µg/m³	79-01-6	27000	29	290	880	-	-						0.19 U	0.19 U
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-						4.8	0.13 U
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	73000	-	-	-	-						0.93 J	0.24 U
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	13	-	-	-	-						0.15 U	0.15 U
Vinyl chloride	µg/m³	75-01-4	2500	93	-	-	930	9300						0.21 J	0.18 U
Xylenes (total)	µg/m³	1330-20-7	770000	1460	-	-	-	-						8.9	-
Total VOCs	µg/m³	-	-	-	-	-	-	-						233.08	0.41

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UU - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

**Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio**

Sample Location											GP01-18	GP01-18	GP02-09	GP03-09	GP04-09	GP05-09
Sample ID											SVA-38443-082418-GL-036	SVA-38443-082418-GL-037	SVA-38443-081518-GL-011	SVA-38443-081418-GL-004	SVA-38443-081418-GL-002	SVA-38443-081418-GL-003
Sample Date											8/24/2018	8/24/2018	8/15/2018	8/14/2018	8/14/2018	8/14/2018
Parameters	Units	CAS#	Max	USEPA Subslab VSL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	a	b	c	d	e			
Volatiles																
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	32 U	34 U	22 U	33	2.1 J	2.4		
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U		
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	58 U	61 U	40 U	0.29 U	2.9 U	0.29 U		
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	21 U	22 U	1.6 J	4.7	29	0.11 U		
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	27 U	28 U	18 U	0.13 U	1.3 U	0.13 U		
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	140 U	150 U	9.9 UJ	0.73 UJ	7.3 UJ	0.73 UJ		
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	61 U	64 U	15	17	19	16		
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	67 U	70 U	46 U	0.34 U	3.4 U	0.34 U		
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	83 U	87 U	5.7 U	0.42 U	4.2 U	0.42 U		
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	38 U	39 U	26 U	0.19 U	1.9 U	0.19 U		
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	48 U	50 U	33 U	0.24 U	2.4 U	0.24 U		
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	110 J	120 J	310	0.22 U	2.2 U	0.22 J		
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	63 U	66 U	43 U	4.8	5.7 J	4.4		
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	28 U	29 U	19 U	0.14 U	1.4 U	0.14 U		
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	77 U	81 U	53 U	0.39 U	3.9 U	0.39 U		
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	76 U	80 U	52 U	0.38 U	3.8 U	0.38 U		
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	57 U	60 U	39 U	0.29 U	2.9 U	0.29 U		
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	3500	3600	25 U	0.18 U	26	0.18 U		
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	120 U	120 U	80 U	9.8	24 J	10		
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	65 U	67 U	4.4 U	0.33 U	3.3 U	0.33 U		
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	47 U	49 U	8.9 J	1.9 J	2.4 U	1.5 J		
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	70 U	73 U	48 U	0.35 U	3.5 U	0.35 U		
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	64 U	67 U	4.5 J	5.7	6.5 J	5.3		
4-Methyl-2-pentanone (Methyl isobutyl ketone) (M BK)	µg/m³	108-10-1	4.3	10400	-	-	-	-	160 U	170 U	11 U	0.86 J	8.0 U	1.4 J		
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	660 U	690 U	58 J	100	460	78		
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	30 U	31 U	20 U	0.15 U	1.5 U	0.15 U		
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	2200 ^a	2100 ^a	9.6	0.57 J	3.0 J	0.41 J		
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	80 U	84 U	55 U	0.40 U	4.0 U	0.40 U		
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	58 U	61 U	40 U	0.29 U	2.9 U	0.29 U		
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	98 U	100 U	6.7 U	0.50 U	5.0 U	0.50 U		
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	25 U	26 U	1.7 U	0.35 J	1.2 U	0.19 J		
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	4000	3800	740	0.81 J	610	0.74 J		
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	58 J	54 J	15 J	26	66	15		
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	160	1600	47 U	49 U	33 U	0.24 U	2.4 U	0.24 U		
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	110000 ^a	110000 ^a	3.1 U	0.23 U	2.3 U	0.23 U		
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	580	540	470	0.52 J	32	1.1		
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	95 J	73 J	4.6 J	0.53	3.1 J	0.27 J		
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	-	41	410	37 U	38 U	25 U	18 ^a	1.9 U	0.19 U		
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	313	-	-	-	-	65 U	68 U	45 U	1.2	3.3 U	0.45 J		
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	130 J	140 J	10 J	0.93	2.4 U	0.24 U		
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	67 U	69 U	46 U	0.34 U	3.4 U	0.34 U		
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	1800	1900	310	0.68 J	8.2 J	0.41 J		
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	62 U	65 U	43 U	0.46 J	3.1 U	0.44 J		
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	71 U	74 U	49 U	0.36 U	3.6 U	0.36 U		
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	67 U	70 U	330	1.1	9.8	570 ^a		
Ethylbenzene	µg/m³	100-41-4	140000	37	-	-	-	-	500 ^a	500 ^a	4.2 J	3.2	24	2.9		
Hexachlorobutadiene	µg/m³	87-68-3	ND	4	-	-	-	-	160 U	170 U	11 UJ	0.83 UJ	8.3 UJ	0.83 UJ		

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	GP01-18 SVA-38443-082418-GL-036 8/24/2018	GP01-18 SVA-38443-082418-GL-037 8/24/2018	GP02-09 SVA-38443-081518-GL-011 8/15/2018	GP03-09 SVA-38443-081418-GL-004 8/14/2018	GP04-09 SVA-38443-081418-GL-002 8/14/2018	GP05-09 SVA-38443-081418-GL-003 8/14/2018
										a	b	c	d	e	Duplicate
Hexane		µg/m³	110-54-3	630000	2430	-	-	-	-	1300	1200	220	0.92 J	22	0.94 J
Isopropyl alcohol		µg/m³	67-63-0	160	695	-	-	-	-	46 U	48 U	14 J	2.3 J	8.1 J	4.6 J
Isopropyl benzene		µg/m³	98-82-8	9800 J	1390	-	-	-	-	58 U	61 U	40 U	0.29 U	2.9 U	0.29 U
m&p-Xylenes		µg/m³	M/P-XYLENE	590000	-	-	-	-	-	290	290	16	15	84	13
Methyl methacrylate		µg/m³	80-62-6	1.4 J	2430	-	-	-	-	64 U	67 U	4.4 U	0.32 U	3.2 U	0.32 U
Methyl tert butyl ether (MTBE)		µg/m³	1634-04-4	ND	360	-	-	-	-	120 U	130 U	83 U	0.61 U	6.1 U	0.61 U
Methylene chloride		µg/m³	75-09-2	40	2090	-	-	-	-	220 U	230 U	15 U	1.2 J	11 U	1.1 J
Naphthalene		µg/m³	91-20-3	1.5 J	3	-	-	28	280	93 U	98 U	6.4 UJ	1.1 J	4.7 UJ	1.1 J
N-Butylbenzene		µg/m³	104-51-8	16 J	-	-	-	-	-	50 U	52 U	3.8 J	3.5	2.8 J	3.3
N-Heptane		µg/m³	142-82-5	1100000	1390	-	-	-	-	1600 ^a	1600 ^a	130	0.57 J	5.0 J	0.54 J
N-Propylbenzene		µg/m³	103-65-1	95 J	3480	-	-	-	-	55 U	57 U	3.7 U	3.0	5.0 J	2.7
o-Xylene		µg/m³	95-47-6	180000	348	-	-	-	-	52 U	55 U	6.8 J	6.0	28	5.4
Styrene		µg/m³	100-42-5	3.5	3480	-	-	-	-	49 U	51 U	3.4 U	3.5	2.5 U	3.2
tert-Butyl alcohol		µg/m³	75-65-0	11 J	-	-	-	-	-	23 U	24 U	6.2 J	2.3 J	8.0 J	7.4
tert-Butylbenzene		µg/m³	98-06-6	5.7 J	-	-	-	-	-	72 U	75 U	5.7 J	0.36 U	3.6 U	0.36 U
Tetrachloroethene		µg/m³	127-18-4	550	139	-	-	1400	4200	54 U	56 U	3.7 U	550 ^a	2.7 U	7.0
Tetrahydrofuran		µg/m³	109-99-9	4.7 J	6950	-	-	-	-	37 U	38 U	2.5 U	1.3 J	1.9 U	1.2 J
Toluene		µg/m³	108-88-3	1700000	17400	-	-	-	-	160	170	12	15	65	13
trans-1,2-Dichloroethene		µg/m³	156-60-5	330	-	-	-	-	-	39 U	41 U	2.7 U	0.20 U	2.0 U	0.20 U
trans-1,3-Dichloropropene		µg/m³	10061-02-6	ND	-	-	-	-	-	43 U	45 U	3.0 U	0.22 U	2.2 U	0.22 U
Trichloroethene		µg/m³	79-01-6	27000	7	70	210	-	-	38 U	40 U	2.6 U	120 ^{ab}	1.9 U	0.19 U
Trichlorofluoromethane (CFC-11)		µg/m³	75-69-4	8.7	-	-	-	-	-	27 U	28 U	1.8 U	2.6	1.3 U	4.6
Trifluorotrichloroethane (CFC-113)		µg/m³	76-13-1	6.6	17400	-	-	-	-	47 U	49 U	3.2 U	0.72 J	2.4 U	0.60 J
Vinyl bromide (Bromoethene)		µg/m³	593-60-2	ND	3	-	-	-	-	30 U	32 U	2.1 U	0.15 U	1.5 U	0.15 U
Vinyl chloride		µg/m³	75-01-4	2500	6	-	-	56	560	1000 ^{ade}	960 ^{ade}	65 ^{ad}	0.18 U	1.8 U	0.18 U
Xylenes (total)		µg/m³	1330-20-7	770000	348	-	-	-	-	290	290	228	21	112	18.4
Total VOCs		µg/m³	-	-	-	-	-	-	-	127613	127337	2793.7	982.12	1668.3	799.21

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

**Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio**

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP06-09	GP07-18	GP09-09	GP10-09	GP11-09	GP12-09								
Sample ID	SVA-38443-082118-GL-019	SVA-38443-082118-GL-018	SVA-38443-082118-GL-021	SVA-38443-082118-GL-020	SVA-38443-081518-GL-012	SVA-38443-082018-GL-013								
Sample Date	8/21/2018	8/21/2018	8/21/2018	8/21/2018	8/15/2018	8/20/2018								
Parameters														
	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	2430	-	-	-	15	630000^a	3.5 J	1.7 J	1.1 J	1.1 U	
Isopropyl alcohol	µg/m³	67-63-0	160	695	-	-	-	57	5200 U	140	160	2.5 J	27 J	
Isopropyl benzene	µg/m³	98-82-8	9800 J	1390	-	-	-	1.4 J	9800 J^a	4.4 J	2.6 J	0.68 J	2.9 U	
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	12	590000	47	13	11	7.4 J	
Methyl methacrylate	µg/m³	80-62-6	1.4 J	2430	-	-	-	0.32 U	7300 U	3.2 U	0.81 U	1.4 J	3.2 U	
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	360	-	-	-	0.61 U	14000 U	6.1 U	1.5 U	0.61 U	6.1 U	
Methylene chloride	µg/m³	75-09-2	40	2090	-	-	-	7.0	25000 U	14 J	3.6 J	2.3	11 U	
Naphthalene	µg/m³	91-20-3	1.5 J	3	-	-	28	280	0.79 J	11000 UJ	4.7 UJ	1.5 J	1.0 J	4.7 UJ
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	1.8 J	5700 U	2.5 U	2.4 J	2.7	2.5 U	
N-Heptane	µg/m³	142-82-5	1100000	1390	-	-	-	12	1100000^a	14 J	3.4 J	0.50 J	1.9 U	
N-Propylbenzene	µg/m³	103-65-1	95 J	3480	-	-	-	1.2 J	6200 U	2.8 U	1.5 J	2.2	2.8 U	
o-Xylene	µg/m³	95-47-6	180000	348	-	-	-	4.9	180000^a	20	5.5	4.5	2.9 J	
Styrene	µg/m³	100-42-5	3.5	3480	-	-	-	1.2	5600 U	2.5 U	1.7 J	2.2	2.5 U	
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	3.3 J	2600 U	5.1 J	8.5 J	1.1 J	11 J	
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	0.36 U	8200 U	3.6 U	0.91 U	0.36 U	3.6 U	
Tetrachloroethene	µg/m³	127-18-4	550	139	-	-	1400	4200	22	6100 U	26	13	1.1 J	92
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	6950	-	-	-	0.19 U	4200 U	4.7 J	3.7 J	0.88 J	1.9 U	
Toluene	µg/m³	108-88-3	1700000	17400	-	-	-	23	1700000^a	38	13	9.8	4.5 U	
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	0.59 J	4500 U	2.2 J	1.4 J	0.20 U	2.0 U	
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	0.22 U	4900 U	2.2 U	0.54 U	0.22 U	2.2 U	
Trichloroethene	µg/m³	79-01-6	27000	7	70	210	-	0.28 J	4400 U	690^{abc}	34^a	0.19 U	690^{abc}	
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	8.7	3100 U	2.9 J	0.76 J	2.4	2.0 J	
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	17400	-	-	-	0.60 J	5400 U	2.4 U	1.5 J	0.62 J	2.4 U	
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	3	-	-	-	0.15 U	3500 U	1.5 U	0.38 U	0.15 U	1.5 U	
Vinyl chloride	µg/m³	75-01-4	2500	6	-	-	56	560	0.18 U	4100 U	1.8 U	1.7	0.61	1.8 U
Xylenes (total)	µg/m³	1330-20-7	770000	348	-	-	-	16.9	770000^a	67	18.5	15.5	10.3	
Total VOCs	µg/m³	-	-	-	-	-	-	335.16	7274400	1290.9	466.85	184.11	1037.26	

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18								
Sample ID	SVA-38443-082018-GL-014	SVA-38443-082018-GL-015	SVA-38443-082018-GL-016	SVA-38443-082018-GL-017	SVA-38443-082318-GL-028	SVA-38443-082318-GL-034								
Sample Date	8/20/2018	8/20/2018	8/20/2018	8/20/2018	8/23/2018	8/23/2018								
Parameters	Units	CAS#	Max	USEPA Subslab VSL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	GP13-09	GP14-09	GP14-09	GP15-09	GP16-09	GP19-18
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	14	1.3 J	1.3 J	8.5 J	17 U	48 U
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	310 ^a	1.5 J	1.7 J	3200 ^a	55 J	3.1 U
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	0.32 J	0.54 U	0.54 U	6.7 J	14 U	11 J
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	0.73 UJ	2.9 UJ	2.9 UJ	22 UJ	75 UJ	22 U
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	8.4	5.1	5.0	11 J	32 U	92 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	0.34 U	1.4 U	1.4 U	10 U	35 U	10 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	0.42 U	1.7 U	1.7 U	12 U	43 U	12 U
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	0.19 U	0.76 U	0.76 U	5.6 U	20 U	56 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	0.24 U	0.96 U	0.96 U	7.1 U	25 U	7.1 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	8.6	0.89 U	0.89 U	6.6 U	23 U	66 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	2.2	1.4 J	1.3 J	9.5 U	33 U	95 U
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	0.14 U	0.57 U	0.57 U	4.2 U	15 U	42 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	0.39 U	1.6 U	1.6 U	12 U	40 U	12 U
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	0.38 U	1.5 U	1.5 U	11 U	40 U	11 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	0.29 U	1.2 U	1.2 U	8.5 U	30 U	85 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.44 J	0.73 U	0.73 U	5.4 U	3600	190
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	5.9	5.9 J	2.6 J	17 U	61 U	35 U
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	1.3 U	1.3 U	9.7 U	34 U	9.7 U
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	0.97 J	0.95 U	0.95 U	7.0 U	24 U	70 U
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	1.4 U	1.4 U	10 U	36 U	10 U
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	1.9 J	1.3 U	1.3 U	9.6 U	33 U	96 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (M BK)	µg/m³	108-10-1	4.3	10400	-	-	-	-	1.1 J	3.2 U	3.2 U	24 U	82 U	24 U
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	58	54 J	28 J	98 U	340 U	340 J
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	0.15 U	0.60 U	0.60 U	4.4 U	15 U	4.4 U
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	0.32 J	0.72 U	0.72 U	5.3 U	18 U	45 ^a
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	0.40 U	1.6 U	1.6 U	12 U	42 U	12 U
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	0.50 U	2.0 U	2.0 U	15 U	51 U	15 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	0.12 U	0.50 U	0.50 U	3.7 U	13 U	3.7 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	13	1.1 J	0.69 U	5.1 U	6800	940
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	14	5.9 J	4.2 J	26 J	11 J	40 J
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	160	1600	0.24 U	0.96 U	0.96 U	9.2 J	25 U	7.1 U
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	0.23 U	0.90 U	0.90 U	6.7 U	23 U	6.7 U
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	0.94	7.3	5.4	7.7 J	110	39 U
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	0.97	0.37 U	0.37 U	12 J	9.5 U	9.2 J
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	-	41	410	3.6	7.6 ^a	7.4 ^a	17 J ^a	19 U	55 U
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	313	-	-	-	-	0.46 J	1.3 U	1.3 U	9.8 U	34 U	98 U
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	3.5	3.1 J	1400	24 U	1700
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	1.3 U	1.3 U	9.9 U	35 U	99 U
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	3.7	0.55 U	0.55 U	4.1 U	49 J	160
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	1.3 U	1.3 U	9.3 U	32 U	93 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	10	2.3 J	2.3 J	10 U	35 U	10 U
Ethylbenzene	µg/m³	100-41-4	140000	37	-	-	-	-	1.2	1.2 U	1.2 U	8.7 U	30 U	14 J
Hexachlorobutadiene	µg/m³	87-68-3	ND	4	-	-	-	-	0.83 UJ	3.3 UJ	3.3 UJ	25 UJ	86 UJ	25 U

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP13-09 SVA-38443-082018-GL-014 8/20/2018	GP14-09 SVA-38443-082018-GL-015 8/20/2018	GP14-09 SVA-38443-082018-GL-016 8/20/2018	GP15-09 SVA-38443-082018-GL-017 8/20/2018	GP16-09 SVA-38443-082318-GL-028 8/23/2018	GP19-18 SVA-38443-082318-GL-034 8/23/2018								
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	2430	-	-	-	1.1 J	0.45 U	0.73 J	3.3 U	210	340	
Isopropyl alcohol	µg/m³	67-63-0	160	695	-	-	-	1.6 J	4.2 J	2.5 J	6.8 U	24 U	76 J	
Isopropyl benzene	µg/m³	98-82-8	9800 J	1390	-	-	-	0.29 U	1.2 U	1.2 U	8.7 U	30 U	8.7 U	
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	5.1	3.0 J	2.8 J	15 U	54 U	47	
Methyl methacrylate	µg/m³	80-62-6	1.4 J	2430	-	-	-	0.32 U	1.3 U	1.3 U	9.6 U	33 U	9 6 U	
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	360	-	-	-	0.61 U	2.5 U	2.5 U	18 U	63 U	18 U	
Methylene chloride	µg/m³	75-09-2	40	2090	-	-	-	2.4	4.4 U	5.0 J	33 U	110 U	33 U	
Naphthalene	µg/m³	91-20-3	1.5 J	3	-	-	28	280	1.0 J	1.9 UJ	1.9 UJ	14 UJ	49 UJ	14 U
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	2.0 J	1.3 J	1.3 J	7.5 U	26 U	7 5 U	
N-Heptane	µg/m³	142-82-5	1100000	1390	-	-	-	0.44 J	0.77 U	0.77 U	5.7 U	20 U	330	
N-Propylbenzene	µg/m³	103-65-1	95 J	3480	-	-	-	1.1 J	1.1 U	1.1 U	8.1 U	28 U	8.1 U	
o-Xylene	µg/m³	95-47-6	180000	348	-	-	-	2.6	1.5 J	1.6 J	7.8 U	27 U	18 J	
Styrene	µg/m³	100-42-5	3 5	3480	-	-	-	0.82 J	0.99 U	0.99 U	7.3 U	25 U	7 3 U	
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	4.4 J	2.6 J	0.64 J	5.3 J	12 U	8.3 J	
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	0.36 U	1.4 U	1.4 U	11 U	37 U	11 U	
Tetrachloroethene	µg/m³	127-18-4	550	139	-	-	1400	4200	1.3 J	330 ^a	370 ^a	25 J	28 U	8 0 U
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	6950	-	-	-	0.57 J	0.74 U	1.0 J	5.5 U	19 U	5 5 U	
Toluene	µg/m³	108-88-3	1700000	17400	-	-	-	4.8	1.9 J	1.9 J	13 U	47 U	71	
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	0.20 U	1.0 J	1.0 J	57	20 U	30	
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	0.22 U	0.87 U	0.87 U	6.4 U	22 U	6.4 U	
Trichloroethene	µg/m³	79-01-6	27000	7	70	210	-	-	1.3	520 ^{abc}	510 ^{abc}	3400 ^{abc}	20 U	13 J ^a
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	0.88 J	1.6 J	1.7 J	4.0 U	14 U	4 0 U	
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6 6	17400	-	-	-	6.6	0.95 U	0.95 U	7.0 U	24 U	7 0 U	
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	3	-	-	-	0.15 U	0.61 U	0.61 U	4.5 U	16 U	4 5 U	
Vinyl chloride	µg/m³	75-01-4	2500	6	-	-	56	560	3.1	0.73 U	0.73 U	14 J ^a	370 ^{ad}	2500 ^{ade}
Xylenes (total)	µg/m³	1330-20-7	770000	348	-	-	-	-	7.7	4.5	4.4	ND	ND	65
Total VOCs	µg/m³	-	-	-	-	-	-	-	508.83	968.5	966.87	8199.4	11205	6982.5

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	Outdoor Ambient Air near GP19										GP20-18	GP21-09	GP22-13	GP22-13	GP23-13	
Sample ID	SVA-38443-082318-GL-033										SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025	
Sample Date	8/23/2018										8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018	
Parameters	Units	CAS#	Max	USEPA Subslab Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	a	b	c	d	e			Duplicate
Volatiles																
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	0.16 U	22 U	3.3 U	0.27 J	0.26 J	0.26 J	1.6 J	
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	0.42 U	1.7 U	
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	0.29 U	1.2 U	
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	0.11 U	14 U	4.3 J	1.7	1.7	0.42 U		
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	0.13 U	18 U	2.7 U	1.7	1.7	0.54 U		
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	0.73 U	99 U	15 UJ	0.73 U	0.73 U	0.73 U	2.9 U	
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	0.31 U	42 U	6.2 U	1.6	1.5	3.0 J		
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	0.34 U	46 U	6.8 U	0.34 U	0.34 U	0.34 U	1.4 U	
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	0.42 U	57 U	8.4 U	0.42 U	0.42 U	0.42 U	1.7 U	
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	0.19 U	26 U	3.8 U	1.0	0.95	0.76 U		
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	0.24 U	33 U	4.8 U	0.24 U	0.24 U	0.24 U	0.96 U	
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	0.22 U	30 U	4.5 U	0.22 U	0.22 U	0.22 U	0.89 U	
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	0.32 U	43 U	6.4 U	0.37 J	0.37 J	0.37 J	1.3 U	
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	0.14 U	19 U	2.8 U	0.14 U	0.14 U	0.14 U	0.57 U	
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	0.39 U	53 U	7.8 U	0.58 J	0.64 J	1.6 U		
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	0.38 U	52 U	7.7 U	0.38 U	0.38 U	0.38 U	1.5 U	
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	0.73 J	39 U	5.8 U	0.29 U	0.29 U	0.29 U	1.2 U	
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.18 U	25 U	33 J	0.18 U	0.18 U	0.18 U	1.2 J	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	1.2 J	80 U	12 U	13	12	12	17	
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	44 U	6.5 U	0.33 U	0.33 U	0.33 U	1.3 U	
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	0.24 U	32 U	4.8 U	2.9	2.7	2.6 J		
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	48 U	7.0 U	0.35 U	0.35 U	0.35 U	1.4 U	
4-Ethyl tolueene	µg/m³	622-96-8	72 J	-	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 J	0.32 J	1.3 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4.3	10400	-	-	-	-	4.3	110 U	16 U	3.8	0.80 U	0.80 U	3.2 U	
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	12	450 U	67 U	66	56	77		
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	0.15 U	20 U	3.0 U	0.15 U	0.15 U	0.15 U	0.60 U	
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	0.45 J	24 U	15 ^a	0.83	0.89	0.84 J		
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	0.40 U	55 U	8.1 U	0.40 U	0.40 U	0.40 U	1.6 U	
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	0.29 U	1.2 U	
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	0.50 U	67 U	9.9 U	0.50 U	0.50 U	0.50 U	2.0 U	
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	0.12 U	17 U	2.5 U	0.12 U	0.30 J	0.98 J		
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	1.0	24 U	1700	73	67	3.1 J		
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	0.26 J	13 U	13 J	7.6	8.5	14		
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	160	1600	0.44 J	32 U	4.8 U	0.24 U	0.24 U	0.24 U	0.96 U	
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	0.23 U	31 U	4.5 U	0.37 J	0.38 J	0.90 U		
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	1.7	18 U	84	1.5 J	7.2 J	1.8 J		
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	0.092 U	13 U	1.8 U	0.42 J	0.36 J	0.37 U		
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	-	41	410	0.19 U	25 U	3.7 U	0.37 J	0.36 J	1.8 J		
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	313	-	-	-	-	1.1	45 U	6.6 U	0.33 U	0.33 U	1.8 J		
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	770	16	22	23	0.95 U		
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	46 U	6.7 U	0.34 U	0.34 U	1.3 U		
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	0.14 U	19 U	35	10	10	0.55 U		
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	43 U	6.3 U	0.31 U	0.31 U	1.3 U		
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	49 U	7.2 U	0.36 U	0.36 U	1.4 U		
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	1.3							

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	Outdoor Ambient Air near GP19										GP20-18	GP21-09	GP22-13	GP22-13	GP23-13	
Sample ID	SVA-38443-082318-GL-033										SVA-38443-082318-GL-030	SVA-38443-081418-GL-001	SVA-38443-082318-GL-031	SVA-38443-082318-GL-032	SVA-38443-082218-GL-025	
Sample Date	8/23/2018										8/23/2018	8/14/2018	8/23/2018	8/23/2018	8/22/2018	
Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	a	b	c	d	e			Duplicate
Hexane	µg/m³	110-54-3	630000	2430	-	-	-	-	0.72 J	15 U	52	6.4	7.5	12 J		
Isopropyl alcohol	µg/m³	67-63-0	160	695	-	-	-	-	0.62 J	82 J	14 J	1.9 J	3.1 J	36 J		
Isopropyl benzene	µg/m³	98-82-8	9800 J	1390	-	-	-	-	0.29 U	40 U	5.9 U	0.29 U	0.29 U	1.2 U		
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	0.52 U	71 U	10 U	4.4	4.7	14		
Methyl methacrylate	µg/m³	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	44 U	6.5 U	0.32 U	0.32 U	1.3 U		
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	360	-	-	-	-	0.61 U	83 U	12 U	0.61 U	0.61 U	2.5 U		
Methylene chloride	µg/m³	75-09-2	40	2090	-	-	-	-	1.6 J	150 U	22 U	1.2 J	4.1 J	4.4 U		
Naphthalene	µg/m³	91-20-3	1.5 J	3	-	-	28	280	0.47 U	64 U	9.4 UJ	0.47 U	0.79 J	1.9 U		
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	0.25 U	34 U	5.1 U	0.49 J	0.40 J	1.0 U		
N-Heptane	µg/m³	142-82-5	1100000	1390	-	-	-	-	0.22 J	26 U	4.0 J	1.9 J	2.3	1.5 J		
N-Propylbenzene	µg/m³	103-65-1	95 J	3480	-	-	-	-	0.28 U	37 U	5.5 U	0.28 U	0.28 U	1.1 U		
o-Xylene	µg/m³	95-47-6	180000	348	-	-	-	-	0.26 U	36 U	5.3 U	1.3	1.2	5.1		
Styrene	µg/m³	100-42-5	3.5	3480	-	-	-	-	0.25 U	34 U	4.9 U	0.25 J	0.27 J	0.99 U		
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	0.12 U	16 U	2.3 U	2.3 J	1.9 J	4.1 J		
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	49 U	7.2 U	1.8 J	1.7 J	1.4 U		
Tetrachloroethene	µg/m³	127-18-4	550	139	-	-	1400	4200	0.78 J	37 U	5.4 U	1.9	1.3 J	1.1 U		
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	6950	-	-	-	-	0.19 U	25 U	3.7 U	0.19 U	0.19 U	0.74 U		
Toluene	µg/m³	108-88-3	1700000	17400	-	-	-	-	0.70 J	61 U	9.0 U	1.3	1.7	7.8		
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	0.20 U	37 J	4.0 U	3.5	3.5	1.8 J		
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	30 U	4.4 U	0.22 U	0.22 U	0.87 U		
Trichloroethene	µg/m³	79-01-6	27000	7	70	210	-	-	0.19 U	6700 ^{abc}	3.9 U	2.7	2.3	600 ^{abc}		
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	1.2	18 U	2.7 U	0.13 U	0.36 J	7.3		
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	17400	-	-	-	-	0.52 J	32 U	4.8 U	0.24 U	0.24 U	0.95 U		
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	3	-	-	-	-	0.15 U	21 U	3.1 U	0.15 U	0.15 U	0.61 U		
Vinyl chloride	µg/m³	75-01-4	2500	6	-	-	56	560	0.18 U	25 U	3.6 U	42 ^a	38 ^a	0.73 U		
Xylenes (total)	µg/m³	1330-20-7	770000	348	-	-	-	-	ND	ND	ND	5.7	5.9	19.1		
Total VOCs	µg/m³	-	-	-	-	-	-	-	30.84	7589	1970.3	290.25	279.35	797.52		

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled

"Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location	GP24A-13 SVA-38443-082218-GL-024 8/22/2018	GP24B-13 SVA-38443-082218-GL-023 8/22/2018	GP25-18 SVA-38443-081418-GL-006 8/14/2018	GP26-18 SVA-38443-081418-GL-005 8/14/2018	GP27-18 SVA-38443-081518-GL-010 8/15/2018	GP28-18 SVA-38443-081518-GL-007 8/15/2018								
Sample ID														
Sample Date														
Parameters	Units	CAS#	Max	USEPA Subslab VSL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Volatiles														
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	2.2	0.69 J	3.8 J	7.3 U	19 U	7.4 U
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	0.11 U	0.11 U	29	30 J	41 J	19 J
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	0.13 U	0.13 U	24	6.1 U	15 U	6.1 U
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	0.73 U	0.73 UJ	15 UJ	33 UJ	83 UJ	33 UJ
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	2.6	1.6	12 J	22 J	120	14 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	0.34 U	0.34 U	6.8 U	15 U	38 U	15 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	0.42 U	0.42 U	8.4 U	19 U	48 U	19 U
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	0.19 U	0.19 U	3.8 U	8.5 U	22 U	8.7 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	0.24 U	0.24 U	4.8 U	11 U	27 U	11 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	0.22 U	0.22 U	28	32 J	25 U	10 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	0.58 J	0.46 J	6.4 U	14 U	52 J	15 U
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	0.14 U	0.14 U	2.8 U	6.4 U	16 U	6.4 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	2.7	0.39 U	7.8 U	18 U	44 U	18 U
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	0.38 U	0.38 U	7.7 U	17 U	74 J ^a	18 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	0.29 U	0.29 U	5.8 U	13 U	33 U	13 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	0.41 J	1.2 J	10 J	16 J	21 U	8.3 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	18	5.3	12 U	26 U	67 U	27 U
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	0.33 U	0.33 U	6.5 U	15 U	37 U	15 U
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	2.8	0.90 J	4.8 U	11 U	27 U	11 U
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	0.35 U	0.35 U	7.0 U	16 U	40 U	38 J
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	0.59 J	0.52 J	6.5 U	15 U	72 J	15 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (M BK)	µg/m³	108-10-1	4.3	10400	-	-	-	-	3.9	1.1 J	16 U	36 U	91 U	36 U
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	75	22	67 U	150 U	380 U	150 U
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	0.15 U	0.15 U	3.0 U	6.7 U	17 U	6.8 U
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	1.2	0.43 J	3.6 U	52 ^a	410 ^a	87 ^a
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	0.40 U	0.40 U	8.1 U	18 U	46 U	18 U
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	0.29 U	0.29 U	5.9 U	13 U	34 U	13 U
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	0.50 U	0.50 U	9.9 U	22 U	56 U	23 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	0.18 J	0.12 U	2.5 U	5.6 U	14 U	5.7 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	0.96	2.3	720	1800	8100	3000
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	14	12	28 J	240	92 J	27 J
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	160	1600	36 ^a	0.34 J	4.8 U	11 U	27 U	11 U
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	0.23 J	0.23 U	4.7 J	22 J	9200 ^a	1700 ^a
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	1.8	17	45	48	15 U	12 J
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	0.14 J	0.092 U	1.8 U	550	41 J	43
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	41	410	0.29 J	0.19 U	3.7 U	8.3 U	21 U	8.4 U	
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	313	-	-	-	-	0.67 J	0.47 J	6.6 U	15 U	38 U	15 U
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	0.24 U	0.24 U	4.8 U	13 J	27 U	30 J
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	0.34 U	0.34 U	6.7 U	15 U	38 U	15 U
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	0.14 U	0.53 J	24 J	72 J	350 J	150
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	0.31 U	0.31 U	6.3 U	14 U	36 U	14 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	1.5	1.2	12 J	15 U	38 U	15 U
Ethylbenzene	µg/m³	100-41-4	140000	37	-	-	-	-	2.0	1.9	5.9 U	13 U	150 ^a	13 U
Hexachlorobutadiene	µg/m³	87-68-3	ND	4	-	-	-	-	0.83 U	0.83 UJ	17 UJ	37 UJ	95 UJ	38 UJ

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location	GP24A-13 SVA-38443-082218-GL-024	GP24B-13 SVA-38443-082218-GL-023	GP25-18 SVA-38443-081418-GL-006	GP26-18 SVA-38443-081418-GL-005	GP27-18 SVA-38443-081518-GL-010	GP28-18 SVA-38443-081518-GL-007								
Sample ID	8/22/2018	8/22/2018	8/14/2018	8/14/2018	8/15/2018	8/15/2018								
Sample Date														
Parameters														
	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential						
				a	b	c	d	e						
Hexane	µg/m³	110-54-3	630000	2430	-	-	-	0.76 J	4.7	38	140	3100^a	1100	
Isopropyl alcohol	µg/m³	67-63-0	160	695	-	-	-	81	3.2 J	6.7 J	10 U	26 U	11 U	
Isopropyl benzene	µg/m³	98-82-8	9800 J	1390	-	-	-	1.4 J	0.29 U	5.9 U	13 U	34 U	71 J	
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	8.6	8.9	13 J	54	350	67	
Methyl methacrylate	µg/m³	80-62-6	1.4 J	2430	-	-	-	0.32 U	0.32 U	6.5 U	15 U	37 U	15 U	
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	360	-	-	-	0.61 U	0.61 U	12 U	28 U	70 U	28 U	
Methylene chloride	µg/m³	75-09-2	40	2090	-	-	-	1.1 U	21	40	50 U	130 U	51 U	
Naphthalene	µg/m³	91-20-3	1.5 J	3	-	-	28	280	0.47 U	0.47 UJ	9.4 UJ	21 UJ	54 UJ	21 UJ
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	0.31 J	0.25 U	5.1 U	11 U	29 U	13 J	
N-Heptane	µg/m³	142-82-5	1100000	1390	-	-	-	1.1 J	1.5 J	7.7 J	50 J	1800^a	390	
N-Propylbenzene	µg/m³	103-65-1	95 J	3480	-	-	-	0.40 J	0.29 J	5.5 U	12 U	95 J	13 U	
o-Xylene	µg/m³	95-47-6	180000	348	-	-	-	2.9	3.1	6.1 J	18 J	310	12 U	
Styrene	µg/m³	100-42-5	3.5	3480	-	-	-	0.64 J	0.25 U	4.9 U	11 U	28 U	11 U	
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	4.5 J	1.4 J	2.3 U	7.5 J	13 U	5.2 U	
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	0.36 U	0.36 U	7.2 U	16 U	41 U	16 U	
Tetrachloroethene	µg/m³	127-18-4	550	139	-	-	1400	4200	0.27 U	1.9	5.4 U	12 U	31 U	12 U
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	6950	-	-	-	-	2.3 J	0.19 U	3.7 U	8.3 U	21 U	8.5 U
Toluene	µg/m³	108-88-3	1700000	17400	-	-	-	-	4.3	8.0	15	34	540	25 J
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	2.3	1.1	4.0 U	8.9 U	23 U	21 J
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	0.22 U	4.4 U	9.8 U	25 U	9.9 U
Trichloroethene	µg/m³	79-01-6	27000	7	70	210	-	-	0.75 J	0.19 U	3.9 U	110^{ab}	22 U	11 J^a
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	7.1	3.4	5.0 J	6.1 U	15 U	6.1 U
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	17400	-	-	-	-	0.66 J	0.59 J	4.8 U	11 U	27 U	11 U
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	3	-	-	-	-	0.15 U	0.15 U	3.1 U	6.9 U	17 U	7.0 U
Vinyl chloride	µg/m³	75-01-4	2500	6	-	-	56	560	0.30 J	0.18 U	75^{ad}	77^{ad}	21 U	160^{ad}
Xylenes (total)	µg/m³	1330-20-7	770000	348	-	-	-	-	11.5	12	19.1	72	660^a	67
Total VOCs	µg/m³	-	-	-	-	-	-	-	298.57	141.02	1166.1	3459.5	25557	7031

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

**Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio**

Sample Location							GP28-18 SVA-38443-081518-GL-008 8/15/2018 Duplicate	GP29-18 SVA-38443-081518-GL-009 8/15/2018	GP30-18 SVA-38443-082218-GL-027 8/22/2018	GP31-18 SVA-38443-082218-GL-026 8/22/2018	GP32-18 SVA-38443-082418-GL-035 8/24/2018	GP33-18 SVA-38443-082318-GL-029 8/23/2018
Sample ID												
Sample Date												
Parameters	Units	CAS#	Max	USEPA Subslab VSL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential				
				a	b	c	d	e				
Volatiles												
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	6.4 U	7.8 J	0.16 U	
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	16 U	8.4 U	0.42 U	
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	11 U	5.9 U	0.29 U	
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	20 J	4.7 J	0.11 U	
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	5.2 U	2.7 U	0.13 U	
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	28 UJ	15 UJ	0.73 U	
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	12 U	14 J	3.2	
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	13 U	6.8 U	0.34 U	
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	16 U	8.4 U	0.42 U	
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	7.4 U	3.8 U	0.19 U	
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	9.3 U	4.8 U	0.24 U	
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	8.7 U	92	0.22 U	
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	12 U	7.6 J	0.85 J	
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	5.5 U	2.8 U	0.14 U	
1,3-Dichlorobenzene	µg/m³	541-73-1	6 9	-	-	-	-	-	15 U	7.8 U	6.9	
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	ND	ND	ND	
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	15 U	7.7 U	0.38 U	
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	11 U	5.8 U	0.43 J	
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	7.1 U	3.6 U	0.90 J	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	23 U	12 U	12	
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	13 U	6.5 U	0.33 U	
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	9.2 U	4.8 U	1.7 J	
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	47 J	30 J	0.35 U	
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	13 U	11 J	0.75 J	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (M BK)	µg/m³	108-10-1	4 3	10400	-	-	-	-	31 U	16 U	1.1 J	
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	130 U	67 U	120	
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	5.8 U	3.0 U	0.15 U	
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	120 ^a	40 ^a	1.5	
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	16 U	8.1 U	0.40 U	
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	11 U	5.9 U	0.29 U	
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	19 U	9.9 U	0.50 U	
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	4.8 U	2.5 U	0.12 U	
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	3700	4800	1.4	
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	38 J	17 J	65	
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	160	1600	9.3 U	4.8 U	0.27 J	
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	2200 ^a	4.5 U	0.23 U	
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	17 J	14 J	3.0	
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	44	3.8 J	0.27 J	
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	-	41	410	7.2 U	3.7 U	0.19 U	
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3 5	313	-	-	-	-	13 U	6.6 U	3.5	
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	34	95	0.24 U	
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	13 U	6.7 U	0.34 U	
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	210	36	0.14 U	
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	12 U	6.3 U	0.31 U	
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	14 U	7.2 U	0.36 U	
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	13 U	51	0.46 J	
Ethylbenzene	µg/m³	100-41-4	140000	37	-	-	-	-	13 J	14 J	2.7	
Hexachlorobutadiene	µg/m³	87-68-3	ND	4	-	-	-	-	32 UJ	17 UJ	0.83 U	

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	GP28-18 SVA-38443-081518-GL-008 8/15/2018	GP29-18 SVA-38443-081518-GL-009 8/15/2018	GP30-18 SVA-38443-082218-GL-027 8/22/2018	GP31-18 SVA-38443-082218-GL-026 8/22/2018	GP32-18 SVA-38443-082418-GL-035 8/24/2018	GP33-18 SVA-38443-082318-GL-029 8/23/2018
										a	b	c	d	e	Duplicate
Hexane		µg/m³	110-54-3	630000	2430	-	-	-	1400	790	1.1 J	30 U	2.1 J	1.0 J	
Isopropyl alcohol		µg/m³	67-63-0	160	695	-	-	-	9.0 U	5.1 J	90	120 J	46 J	27	
Isopropyl benzene		µg/m³	98-82-8	9800 J	1390	-	-	-	92	74	2.3	79 U	2.9 U	0.81 J	
m&p-Xylenes		µg/m³	M/P-XYLENE	590000	-	-	-	-	92	15 J	11	140 U	5.2 U	4.9	
Methyl methacrylate		µg/m³	80-62-6	1.4 J	2430	-	-	-	13 U	6.5 U	0.32 U	87 U	3.2 U	0.32 U	
Methyl tert butyl ether (MTBE)		µg/m³	1634-04-4	ND	360	-	-	-	24 U	12 U	0.61 U	160 U	6.1 U	0.61 U	
Methylene chloride		µg/m³	75-09-2	40	2090	-	-	-	43 U	22 U	1.6 J	300 U	11 U	3.0	
Naphthalene		µg/m³	91-20-3	1.5 J	3	-	-	28	280	18 UJ	9.4 UJ	0.47 U	130 U	4.7 U	0.47 UJ
N-Butylbenzene		µg/m³	104-51-8	16 J	-	-	-	-	16 J	12 J	0.39 J	68 U	2.5 U	0.25 U	
N-Heptane		µg/m³	142-82-5	1100000	1390	-	-	-	520	400	1.6 J	52 U	1.9 U	0.93 J	
N-Propylbenzene		µg/m³	103-65-1	95 J	3480	-	-	-	11 U	66	0.50 J	74 U	2.8 U	0.28 U	
o-Xylene		µg/m³	95-47-6	180000	348	-	-	-	15 J	13 J	4.1	71 U	2.6 U	1.7	
Styrene		µg/m³	100-42-5	3.5	3480	-	-	-	9.6 U	4.9 U	0.94	66 U	2.5 U	0.32 J	
tert-Butyl alcohol		µg/m³	75-65-0	11 J	-	-	-	-	4.5 U	3.6 J	4.3 J	31 U	6.0 J	2.2 J	
tert-Butylbenzene		µg/m³	98-06-6	5.7 J	-	-	-	-	14 U	7.2 U	0.36 U	97 U	3.6 U	0.36 U	
Tetrachloroethene		µg/m³	127-18-4	550	139	-	-	1400	4200	11 U	68	0.27 U	73 U	2.7 U	2.2
Tetrahydrofuran		µg/m³	109-99-9	4.7 J	6950	-	-	-	7.2 U	3.7 U	2.7 J	50 U	3.0 J	0.96 J	
Toluene		µg/m³	108-88-3	1700000	17400	-	-	-	31	23	7.2	120 U	4.5 U	2.8	
trans-1,2-Dichloroethene		µg/m³	156-60-5	330	-	-	-	-	28 J	5.8 J	4.1	330	2.9 J	2.6	
trans-1,3-Dichloropropene		µg/m³	10061-02-6	ND	-	-	-	-	8.5 U	4.4 U	0.22 U	58 U	2.2 U	0.22 U	
Trichloroethene		µg/m³	79-01-6	27000	7	70	210	-	7.5 U	17 J ^a	2.1	27000 ^{abc}	590 ^{abc}	15 ^a	
Trichlorofluoromethane (CFC-11)		µg/m³	75-69-4	8.7	-	-	-	-	5.2 U	2.7 U	0.56 J	36 U	3.1 J	1.1	
Trifluorotrichloroethane (CFC-113)		µg/m³	76-13-1	6.6	17400	-	-	-	9.2 U	4.8 U	0.24 U	64 U	2.4 U	0.45 J	
Vinyl bromide (Bromoethene)		µg/m³	593-60-2	ND	3	-	-	-	5.9 U	3.1 U	0.15 U	41 U	1.5 U	0.15 U	
Vinyl chloride		µg/m³	75-01-4	2500	6	-	-	56	560	200 ^{ad}	53 ^a	0.18 U	49 U	1.8 U	0.18 U
Xylenes (total)		µg/m³	1330-20-7	770000	348	-	-	-	107	28	15.1	ND	ND	6.6	
Total VOCs		µg/m³	-	-	-	-	-	-	8944	6811.4	375.52	28830	841.7	131.45	

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayon Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	GP34-18 SVA-38443-082218-GL-022 8/22/2018	Trip Blank TB-38443-082318-GL-001 8/23/2018											
Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	a	b	c	d	e
Volatiles													
1,1,1-Trichloroethane	µg/m³	71-55-6	33	17400	-	-	-	-	-	-	-	1.8	0.16 U
1,1,2,2-Tetrachloroethane	µg/m³	79-34-5	ND	2	-	-	-	-	-	-	-	0.42 U	0.42 U
1,1,2-Trichloroethane	µg/m³	79-00-5	ND	1	-	-	-	-	-	-	-	0.29 U	0.29 U
1,1-Dichloroethane	µg/m³	75-34-3	3200	59	-	-	-	-	-	-	-	0.11 U	0.11 U
1,1-Dichloroethene	µg/m³	75-35-4	24	695	-	-	-	-	-	-	-	0.13 U	0.13 U
1,2,4-Trichlorobenzene	µg/m³	120-82-1	ND	7	-	-	-	-	-	-	-	0.73 UJ	0.73 U
1,2,4-Trimethylbenzene	µg/m³	95-63-6	8400 J	209	-	-	-	-	-	-	-	1.8	0.31 U
1,2-Dibromoethane (Ethylene dibromide)	µg/m³	106-93-4	ND	0	-	-	-	-	-	-	-	0.34 U	0.34 U
1,2-Dichlorobenzene	µg/m³	95-50-1	ND	695	-	-	-	-	-	-	-	0.42 U	0.42 U
1,2-Dichloroethane	µg/m³	107-06-2	1	4	-	-	-	-	-	-	-	0.19 U	0.19 U
1,2-Dichloropropane	µg/m³	78-87-5	ND	14	-	-	-	-	-	-	-	0.24 U	0.24 U
1,2-Dichlorotetrafluoroethane (CFC 114)	µg/m³	76-14-2	310	-	-	-	-	-	-	-	-	0.22 U	0.22 U
1,3,5-Trimethylbenzene	µg/m³	108-67-8	52 J	209	-	-	-	-	-	-	-	0.39 J	0.32 U
1,3-Butadiene	µg/m³	106-99-0	ND	3	-	-	-	-	-	-	-	0.14 U	0.14 U
1,3-Dichlorobenzene	µg/m³	541-73-1	6.9	-	-	-	-	-	-	-	-	2.3	0.39 U
1,3-Dichloropropene	µg/m³	542-75-6	ND	23	-	-	-	-	-	-	-	ND	-
1,4-Dichlorobenzene	µg/m³	106-46-7	74 J	9	-	-	-	-	-	-	-	0.38 U	0.38 U
1,4-Dioxane	µg/m³	123-91-1	0.73 J	19	-	-	-	-	-	-	-	0.29 U	0.29 U
2,2,4-Trimethylpentane	µg/m³	540-84-1	1800000	-	-	-	-	-	-	-	-	0.88 J	0.18 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/m³	78-93-3	35 J	17400	-	-	-	-	-	-	-	7.8	0.59 U
2-Chlorotoluene	µg/m³	95-49-8	1.5 J	-	-	-	-	-	-	-	-	0.33 U	0.33 U
2-Hexanone	µg/m³	591-78-6	8.9 J	104	-	-	-	-	-	-	-	1.3 J	0.24 U
2-Phenylbutane (sec-Butylbenzene)	µg/m³	135-98-8	47 J	-	-	-	-	-	-	-	-	0.35 U	0.35 U
4-Ethyl toluene	µg/m³	622-96-8	72 J	-	-	-	-	-	-	-	-	0.46 J	0.32 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/m³	108-10-1	4.3	10400	-	-	-	-	-	-	-	0.90 J	0.80 U
Acetone	µg/m³	67-64-1	460	107000	-	-	-	-	-	-	-	35	3.3 U
Allyl chloride	µg/m³	107-05-1	ND	3	-	-	-	-	-	-	-	0.15 U	0.15 U
Benzene	µg/m³	71-43-2	110000	12	-	-	-	-	-	-	-	0.81	0.18 U
Benzyl chloride	µg/m³	100-44-7	ND	2	-	-	-	-	-	-	-	0.40 U	0.40 U
Bromodichloromethane	µg/m³	75-27-4	ND	3	-	-	-	-	-	-	-	0.29 U	0.29 U
Bromoform	µg/m³	75-25-2	ND	85	-	-	-	-	-	-	-	0.50 U	0.50 U
Bromomethane (Methyl bromide)	µg/m³	74-83-9	0.98 J	17	-	-	-	-	-	-	-	0.12 U	0.12 U
Butane	µg/m³	106-97-8	8100	-	-	-	-	-	-	-	-	0.82 J	0.17 U
Carbon disulfide	µg/m³	75-15-0	270 J	2430	-	-	-	-	-	-	-	21	0.097 U
Carbon tetrachloride	µg/m³	56-23-5	36	16	-	-	-	-	160	1600	-	0.24 U	0.24 U
Chlorobenzene	µg/m³	108-90-7	110000	174	-	-	-	-	-	-	-	0.23 U	0.23 U
Chlorodifluoromethane	µg/m³	75-45-6	580	174000	-	-	-	-	-	-	-	4.6	0.29 J
Chloroethane	µg/m³	75-00-3	550	34800	-	-	-	-	-	-	-	0.092 U	0.092 U
Chloroform (Trichloromethane)	µg/m³	67-66-3	110 J	4	-	-	-	41	410	410	-	0.24 J	0.19 U
Chloromethane (Methyl chloride)	µg/m³	74-87-3	3.5	313	-	-	-	-	-	-	-	1.5	0.33 U
cis-1,2-Dichloroethene	µg/m³	156-59-2	1700	-	-	-	-	-	-	-	-	0.24 U	0.24 U
cis-1,3-Dichloropropene	µg/m³	10061-01-5	ND	-	-	-	-	-	-	-	-	0.34 U	0.34 U
Cyclohexane	µg/m³	110-82-7	230000	20900	-	-	-	-	-	-	-	0.20 J	0.14 U
Cymene (p-Isopropyltoluene)	µg/m³	99-87-6	0.46 J	-	-	-	-	-	-	-	-	0.31 U	0.31 U
Dibromochloromethane	µg/m³	124-48-1	ND	-	-	-	-	-	-	-	-	0.36 U	0.36 U
Dichlorodifluoromethane (CFC-12)	µg/m³	75-71-8	570	348	-	-	-	-	-	-	-	1.8	0.34 U
Ethylbenzene	µg/m³	100-41-4	140000	37	-	-	-	-	-	-	-	1.6	0.30 U
Hexachlorobutadiene	µg/m³	87-68-3	ND	4	-	-	-	-	-	-	-	0.83 UJ	0.83 U

Table 4

Analytical Results Summary and Residential Guidance Criteria
Soil Gas Sampling - August 2018
South Dayton Dump and Landfill Site
Moraine, Ohio

Sample Location Sample ID Sample Date	GP34-18 SVA-38443-082218-GL-022 8/22/2018	Trip Blank TB-38443-082318-GL-001 8/23/2018											
Parameters	Units	CAS#	Max	USEPA Subslab VISL Residential	Accelerated Response Action Level Residential (24 hours)	Urgent Response Action Level Residential (24 hours)	Chronic Response Action Level Residential	Removal Management Level Residential	a	b	c	d	e
Hexane	µg/m³	110-54-3	630000	2430	-	-	-	-	0.93 J	0.11 U			
Isopropyl alcohol	µg/m³	67-63-0	160	695	-	-	-	-	43	0.23 U			
Isopropyl benzene	µg/m³	98-82-8	9800 J	1390	-	-	-	-	1.2 J	0.29 U			
m&p-Xylenes	µg/m³	M/P-XYLENE	590000	-	-	-	-	-	6.7	0.52 U			
Methyl methacrylate	µg/m³	80-62-6	1.4 J	2430	-	-	-	-	0.32 U	0.32 U			
Methyl tert butyl ether (MTBE)	µg/m³	1634-04-4	ND	360	-	-	-	-	0.61 U	0.61 U			
Methylene chloride	µg/m³	75-09-2	40	2090	-	-	-	-	1.2 J	1.1 U			
Naphthalene	µg/m³	91-20-3	1.5 J	3	-	-	-	28	280	0.47 UJ	0.47 U		
N-Butylbenzene	µg/m³	104-51-8	16 J	-	-	-	-	-	0.25 U	0.25 U			
N-Heptane	µg/m³	142-82-5	1100000	1390	-	-	-	-	1.3 J	0.19 U			
N-Propylbenzene	µg/m³	103-65-1	95 J	3480	-	-	-	-	0.28 J	0.28 U			
o-Xylene	µg/m³	95-47-6	180000	348	-	-	-	-	2.2	0.26 U			
Styrene	µg/m³	100-42-5	3.5	3480	-	-	-	-	0.53 J	0.25 U			
tert-Butyl alcohol	µg/m³	75-65-0	11 J	-	-	-	-	-	2.2 J	0.12 J			
tert-Butylbenzene	µg/m³	98-06-6	5.7 J	-	-	-	-	-	0.36 U	0.36 U			
Tetrachloroethene	µg/m³	127-18-4	550	139	-	-	1400	4200	66	0.27 U			
Tetrahydrofuran	µg/m³	109-99-9	4.7 J	6950	-	-	-	-	1.7 J	0.19 U			
Toluene	µg/m³	108-88-3	1700000	17400	-	-	-	-	4.5	0.45 U			
trans-1,2-Dichloroethene	µg/m³	156-60-5	330	-	-	-	-	-	1.3	0.20 U			
trans-1,3-Dichloropropene	µg/m³	10061-02-6	ND	-	-	-	-	-	0.22 U	0.22 U			
Trichloroethene	µg/m³	79-01-6	27000	7	70	210	-	-	0.19 U	0.19 U			
Trichlorofluoromethane (CFC-11)	µg/m³	75-69-4	8.7	-	-	-	-	-	4.8	0.13 U			
Trifluorotrichloroethane (CFC-113)	µg/m³	76-13-1	6.6	17400	-	-	-	-	0.93 J	0.24 U			
Vinyl bromide (Bromoethene)	µg/m³	593-60-2	ND	3	-	-	-	-	0.15 U	0.15 U			
Vinyl chloride	µg/m³	75-01-4	2500	6	-	-	56	560	0.21 J	0.18 U			
Xylenes (total)	µg/m³	1330-20-7	770000	348	-	-	-	-	8.9	-			
Total VOCs	µg/m³	-	-	-	-	-	-	-	233.08	0.41			

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

1 - USEPA sub slab or exterior soil gas concentration Vapor Intrusion Screening Levels (VISLs) based on cancer risk 1E 06 and hazard quotient (HQ)=0.1

2 - Ohio EPA accelerated and urgent response action levels and chronic response action level and removal management levels, from the Ohio EPA Guidance Document titled "Recommendations Regarding Response Action Levels and Timeframes for Common Contaminants of Concern at Vapor Intrusion Sites in Ohio", dated August 2016.

- Concentration was greater than applicable criteria.

Attachment 1



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP01-18
 DATE COMPLETED: January 25, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm) / RAD
2	CONCRETE SLAB SW-GRAVELLY SAND (FILL), fine gravel, medium to coarse grained, slightly consolidated, well graded, dark brown, dry - 0.3' light brown at 3.3ft BGS - glass pieces at 3.9ft BGS - red clay brick at 4.1ft BGS - broken rock at 4.3ft BGS - increase in fine grained at 4.8ft BGS - red clay brick at 5.5ft BGS	0.50		1DP	100		0 / 0
4		6.00		2DP	74		2.3
6	CL-SANDY CLAY (FILL), with fine gravel, coarse sand, slightly cohesive, low plasticity, light brown, moist - large glass pieces at 6.4ft BGS - 0.5' book pages at 7.0ft BGS - with fine gravel, medium grained, black at 8.0ft BGS - glass, metal pieces and concrete piece at 9.0ft BGS - wood chips and glass at 9.8ft BGS - red clay brick staining at 10.0ft BGS	10.00		3DP	62		0 / 0
8		13.30		4DP	82		0 / 0
10		16.00					
12	SW-SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, light gray, dry - light brown staining at 12.0ft BGS - slag piece at 12.9ft BGS - crushed rock fragment at 13.0ft BGS	20.00					
14							
16	ML-CLAYEY SILT (FILL), with medium to coarse sand, slightly cohesive, low plasticity, dark gray, moist - light brown rock fragments at 13.8ft BGS - glass chunks at 15.0ft BGS - asphalt at 15.5ft BGS						
18							
20	GW-SANDY GRAVEL (native), loose, fine grained, trace coarse grained, well graded, light brown, dry - crushed rock fragment at 17.0ft BGS - crushed white quartz fragment at 17.5ft BGS - crushed rock fragment at 19.5ft BGS - crushed rock fragment at 19.8ft BGS						
22	END OF BOREHOLE @ 20.0ft BGS						
24							
26							
28							



STRATIGRAPHIC LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP03-18
DATE COMPLETED: January 30, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	SAMPLE			
			NUMBER	INTERVAL	REC (%)	'N' VALUE PID (ppm)/ RAD
2	SW-SAND (FILL), with silt and fine gravel, loose, medium to coarse grained, well graded, brown, moist - 0.2' concrete pieces at 1.0ft BGS - 0.1' concrete pieces at 2.0ft BGS	4.00	1DP	50		0 / 0
4	ML-CLAYEY SILT (FILL), with fine to medium sand, slightly cohesive, low plasticity, dark gray, wet	5.00				
6	CONCRETE, dry	6.00				
8	SM-SILTY SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, brown, dry - wet at 6.7ft BGS	10.00	2DP	100		0 / 0
10	- 0.3' dry foundry sand at 8.6ft BGS - light brown at 9.0ft BGS					
12	NO RECOVERY, sample blinded		3DP	28		0 / 0
14	SM-SILTY SAND (FILL), foundry sand, with fine gravel, loose, medium to coarse grained, well graded, brown, wet	13.60				0.1
16	NO RECOVERY, very soft material	15.00				
18			4DP	0		0 / 0
20	END OF BOREHOLE @ 20.0ft BGS	20.00				
22						
24						
26						
28						
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE						



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP07-18
DATE COMPLETED: August 11, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N VALUE	PID (ppm) / RAD
2	SM-GRAVELLY/SILTY SAND (FILL), consolidated, dark brown/dark gray, moist, odor	0.50						
4	CL-SILTY CLAY (FILL), cohesive, dark gray, damp	1.50						
6	SW/GW-SAND/GRAVEL (FILL), little silt, loose, medium to coarse sand, fine gravel, well graded, brown/tan, dry	4.20						
8	SW-SAND (NATIVE), loose, fine to medium grained, trace coarse grained, medium brown, dry, strong petroleum odor	7.40						
10	SW/GW-SAND/GRAVEL (NATIVE), little silt, loose, medium to coarse sand, fine gravel, well graded, brown/tan, dry							
12	- wet at 15.0ft BGS							
14	END OF BOREHOLE @ 16.0ft BGS	16.00						
16								
18								
20								
22								
24								
26								
28								
30								
32								
34								
OVERBURDEN LOG 038443-50-WI.GPJ GHD Corp 4/1/19	NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE	CHEMICAL ANALYSIS						



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP08-19
 DATE COMPLETED: January 15, 2019
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N VALUE
2	ML-SILT, little clay, cohesive, dark brown, moist	5.00	CONCRETE	1GP		54	0 / 0
4			BENTONITE GROUT				
6	SW-SAND, little fine gravel, loose, medium to coarse grained, trace fine grained, well graded, tan/brown, dry	7.80	0.5 WELL CASING	2GP		52	0 / 0
8	SW/GW-SAND/GRAVEL, loose, fine, medium and coarse sand, fine gravel, well graded, tan/brown, dry		BENTONITE CHIPS				
10	- iron staining at 11.0ft BGS		2-3/4 BOREHOLE				
12			SAND	3GP		60	0 / 0
14	- wet at 14.5ft BGS		0.5 WELL SCREEN		11.67-12.67		
16	- increase in silt content at 15.0ft BGS			4GP		52	0 / 0
18				14.5-15.5			
20	END OF BOREHOLE @ 20.0ft BGS	20.00		NEG SUDAN IV			
22							
24				5GP		44	0 / 0
26							
28							
30							
32							
34							
<u>NOTES:</u> MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP19-18
DATE COMPLETED: January 24, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELD

OVERBURDEN LOG 038443-50-YWI GPJ GHD Corp 4/1/19

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N VALUE
2	TOPSOIL GC-CLAYEY GRAVEL (FILL), with medium to coarse sand, fine grained, slightly consolidated, well graded, dark brown, dry - crushed rock at 1.0ft BGS - crushed rock at 3.2ft BGS - light brown staining at 4.1ft BGS	0.10 4.20		1DP		66	0 / 0
4	SM-SILTY SAND (FILL), fine grained, slightly consolidated, well graded, light gray, dry			2DP		46	0 / 0
6				11-12-063			0.6
8				3DP		50	1.6
10	- medium grained, plastic pieces at 9.0ft BGS - medium to coarse grained at 10.0ft BGS - medium grained, plastic pieces at 10.2ft BGS						0 / 0
12	- concrete piece at 13.2ft BGS						
14							
16	- slag at 15.0ft BGS - plastic and glass pieces at 15.3ft BGS - wet at 16.0ft BGS						
18							
20	CL-SANDY CLAY (FILL), fine to medium sand, cohesive, low plasticity, dark gray, moist - transitions to native sandy material at 20.0ft BGS	19.00 20.00		4DP		94	0 / 0
22	END OF BOREHOLE @ 20.0ft BGS						
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP20-18
 DATE COMPLETED: January 22, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm) / RAD
0							
0.50	SM-SILTY SAND (FILL), loose, fine to medium grained, trace coarse grained, well graded, brown, moist	1.00					
2	SW-GRAVELLY SAND (FILL), loose, fine gravel, medium grained, with coarse grained, well graded, light brown, dry	3.50					
4	SW-SAND (FILL), foundry sand, loose, fine grained, slightly consolidated, well graded, dark gray, dry - slag pieces at 3.5ft BGS	6.70					
6	SM-SILTY SAND (FILL), foundry sand, fine grained, trace medium grained, slightly consolidated, well graded, light gray, dry - 0.7' wet at 4.0ft BGS	9.10					
8	- crushed rock, with medium grained at 5.3ft BGS - 0.5' wet at 6.0ft BGS - crushed black rock material at 6.5ft BGS	10.00					
10	GM-SILTY GRAVEL (FILL), with medium to coarse sand, loose, fine grained, well graded, orangish brown, moist - glass pieces at 7ft BGS - 0.1' clay section at 8.7ft BGS	11.00					
12	CL-SANDY CLAY (FILL), trace fine gravel, medium sand, cohesive, low plasticity	12.00					
14	GW-SANDY GRAVEL (native), trace fine sand, loose, medium to coarse sand, fine grained, well graded, light brown, dry - crushed rock pieces at 12.5ft BGS - crushed rock pieces at 13.5ft BGS - rock at 15.0ft BGS - gray staining from 15.0 to 16.0ft BGS	13.00					
16		14.00					
18		15.00					
20	- crushed rock pieces at 19.7ft BGS END OF BOREHOLE @ 20.0ft BGS	20.00					
22							
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP25-18
 DATE COMPLETED: January 29, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm) / RAD
2	SW-SAND (FILL), trace silt, loose, medium to coarse grained, little fine grained, well graded, black, moist - rock pieces at 0.7ft BGS	2.50					
4	GC-GRAVELLY CLAY (FILL), fine gravel, cohesive, low plasticity, dark gray/olive green, moist - concrete fragments at 3.0ft BGS	3.20					1.4
6	CL-CLAY (FILL), little fine gravel, cohesive, low plasticity, olive green, moist - 2 black medium grained foundry sand at 3.9ft BGS	5.50					
8	SW-SAND (FILL), little silt, loose, medium to coarse grained, well graded, gray/olive green, dry - red clay brick powder/pieces at 8.9ft BGS	10.00					
10	SW/GW-SAND/GRAVEL (FILL), loose, medium to coarse sand, fine gravel, well graded, dark gray/black, dry						
12							
14	SW-SAND (FILL), trace silt, loose, fine to medium grained, well graded, black, dry - medium to coarse grained, gray at 16.0ft BGS - white clay brick fragments at 16.2ft BGS	14.50					
16	SW-SILTY SAND (FILL), medium to coarse grained, consolidated, rust/dark gray, dry	16.70					
18							
20	END OF BOREHOLE @ 20.0ft BGS	20.00					
22							
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP26-18
 DATE COMPLETED: January 29, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm)/ RAD
2	TOPSOIL SW-SAND (FILL), trace fine gravel, loose, medium to coarse grained, well graded, dark gray/brown, dry	0.25					0 / 0
4	SW-SAND (FILL), trace fine gravel, loose, fine to medium grained, trace coarse grained, well graded, dark brown, dry - slag pieces at 4.0ft BGS	3.20					
6	- increase in silt content, slightly consolidated, dark gray at 4.1ft BGS	5.40					
8	SW-SAND (FILL), trace silt, loose, fine, medium and coarse grained, well graded, gray/light gray, dry	7.60					0 / 0
10		10.00					
12		12.40					
14	- red clay brick at 13.0ft BGS SM-SILTY SAND (FILL), fine, medium and coarse grained, consolidated, dark gray	13.00					0.5
16		15.40					
18		17.80					
20	- red clay brick at 19.8ft BGS END OF BOREHOLE @ 20.0ft BGS	20.00					0 / 0
22							
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



**STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)**

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP27-18
DATE COMPLETED: January 30, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FELDMAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm)/ RAD
2	SW-SAND (FILL), fine to medium grained, slightly consolidated, well graded, brown, dry - concrete pieces at 1.8ft BGS - 0.2' increase in silt content at 2.4ft BGS - with fine gravel, with coarse grained, dark gray at 2.7ft BGS	9.60	 WELL DETAILS Screened interval: 7.00 to 8.00ft BGS Length: 1ft Diameter: 0.5in Material: TEFLO LINER POLYETHYLENE Seal: 3.00 to 6.00ft BGS Material: BENTONITE GROUT Sand Pack: 6.00 to 8.10ft BGS Material: SAND	1DP		96	0 / 0
4	- loose, increase in silt content at 5.0ft BGS	12.40		2DP 7.8-067		100	2.7
6							3.2 / 0
8							
10	SW-SAND (FILL), trace fine gravel, loose, fine to medium grained, with coarse grained, well graded, brown, dry	14.00		3DP		80	0 / 0
12	- 0.5' metallic paper at 11.8ft BGS						
14	SM-SILTY SAND (FILL), fine to medium grained, slightly consolidated, well graded, dark gray, dry - 0.2' multicolored frock fragments at 12.9ft BGS - 0.1' light green slag fragments at 13.4ft BGS - moist at 15.0ft BGS	17.00		4DP		82	0 / 0
16	- wet at 17.0ft BGS						
18	- clayey, brown at 19.0ft BGS						
20	END OF BOREHOLE @ 20.0ft BGS	20.00					
22							
24							
26							
28							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP28-18
DATE COMPLETED: January 30, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE/A. FEL

DOVERBURDEN LOG 038443-50-WI GPJ GHD Corp 4/1/19

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N VALUE
2	SW-SAND (FILL), with fine gravel, loose, fine to medium grained, well graded, gray, dry			1DP		44	0 / 0
4	- wood chip at 4.0ft BGS - increase in silt content, moist at 4.0ft BGS						
6	SM-SILTY SAND (FILL), with fine gravel, medium to coarse grained, slightly consolidated, well graded, brown, dry - concrete pieces at 6.0ft BGS	5.00 6.20					
8	SW/SM-SAND (FILL), with silt, fine to medium grained, slightly consolidated, well graded, dark gray, dry - plastic pieces and wood chips at 7.6ft BGS	7.60		2DP		52	8.3 0 / 0
10	NO RECOVERY, sample blinded	10.00 10.50					
12	GW-SANDY GRAVEL (FILL), loose, medium to coarse sand, fine grained, well graded, gray/brown, dry - large wood chips at 10.5ft BGS						
14	NO RECOVERY, sample blinded						
16	GM-SILTY GRAVEL (FILL), with clay, fine grained, slightly consolidated, well graded, brown/gray, dry	14.50 15.00					
18	SM-SILTY SAND (FILL), foundry sand, loose, fine grained, trace medium grained, well graded, dark gray, dry - 0.1' brown staining at 15.5ft BGS - 0.2' concrete pieces at 18.0ft BGS - increase in moisture content at 18.0ft BGS						
20	END OF BOREHOLE @ 20.0ft BGS	20.00					
22							
24							
26							
28							

WELL DETAILS

Screened interval: 11.00 to 12.00ft BGS
Length: 1ft
Diameter: 0.5in
Material: TEFILON LINED POLYETHYLENE
Seal: 3.00 to 10.00ft BGS
Material: BENTONITE GROUT
Sand Pack: 10.00 to 12.10ft BGS
Material: SAND

15-16-068

4DP 50 0 / 0

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP30-18
DATE COMPLETED: January 17, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORAINE, OHIO

HOLE DESIGNATION: GP31-18
DATE COMPLETED: January 19, 2018
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP32-18
 DATE COMPLETED: January 10, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm) / RAD
2	GW-SANDY GRAVEL (FILL), few silt, loose, fine, medium and coarse sand, fine grained, well graded, dark gray/light brown, moist SW-GRAVELLY SAND (FILL), few silt, fine gravel, fine, medium and coarse grained, slightly consolidated, well graded, dark gray/black, moist - 0.2' section light brown sand and coarse gravel at 1.8ft BGS	1.00 2.00	CONCRETE 0.5 WELL CASING BENTONITE GROUT 2-3/4 BOREHOLE SAND 0.5 WELL SCREEN	1DP		70	2.2 0 / 0
4	SW-SAND (FILL), with fine gravel, fine to medium grained, slightly consolidated, well graded, dark gray, dry - 0.2' dark brown at 3.0ft BGS - 0.1' dark brown at 4.7ft BGS - fine gravel pieces, slough at 5.1ft BGS - yellowish/orange coarse gravel piece at 6.5ft BGS	8.00 9.70		2DP		66	0 / 0
6	SM-SILTY SAND (FILL), fine to medium grained, slightly consolidated, well graded, light gray, dry						
8	SW-SAND (FILL), loose, medium to coarse grained, well graded, light brown, dry						
10							
12							
14	- coarse gravel pieces, glass, and white powder at 14.0ft BGS - increase in silt content, fine gravel pieces, yellowish orange at 14.7ft BGS						
16							
18	- tan at 18.9ft BGS						
20	SW-SAND (FILL), with fine gravel, medium to coarse grained, slightly consolidated, well graded, light gray, dry SW-GRAVELLY SAND (FILL), loose, fine gravel, medium to coarse grained, well graded, dark brown/orange, dry	19.00 19.80 20.00					
22	END OF BOREHOLE @ 20.0ft BGS						
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP33-18
 DATE COMPLETED: January 22, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE PID (ppm) / RAD
2	SW-SAND (FILL), loose, fine to medium grained, well graded, dark brown, moist SW-GRAVELLY SAND (FILL), with fine gravel, loose, medium to coarse grained, well graded, brown, dry SM-SILTY SAND (FILL), with fine gravel, slightly consolidated, well graded, dark brown, dry	1.00 2.30 3.60	CONCRETE 0.5 WELL CASING BENTONITE GROUT 2-3/4 BOREHOLE	1DP		70	0 / 0
4	SW-GRAVELLY SAND (FILL), medium to coarse grained, with fine grained, slightly consolidated, well graded, dark brown, dry - black cinders at 3.7ft BGS	6.00					
6	- yellowish brown staining at 4.3ft BGS						
8	SM-SILTY SAND, foundry sand, fine grained, trace coarse grained, consolidated, well graded, light gray, dry			2DP		94	0 / 0
10	- moist at 11.0ft BGS						
12	GW-SAND GRAVEL (FILL), loose, medium to coarse sand, fine grained, well graded, orangish brown, dry	12.00		3DP		40	0 / 0
14	CL-SANDY CLAY (FILL), fine sand, with medium sand, cohesive, slightly compact, brown, dry	14.00					
16							
18	GW-SANDY GRAVEL (native), loose, medium to coarse sand, fine grained, well graded, light brown, dry	17.00	SAND 0.5 WELL SCREEN	4DP (17.5-18.5) -0.78 NEG SUDAN IV		88	0 / 0
20	END OF BOREHOLE @ 20.0ft BGS	20.00					
22							
24							
26							
28							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE							
CHEMICAL ANALYSIS							



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
 PROJECT NUMBER: 038443
 CLIENT: PRP GROUP
 LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP34-18
 DATE COMPLETED: July 31, 2018
 DRILLING METHOD: GEOPROBE
 FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N VALUE PID (ppm) / RAD
2	TOPSOIL, silt, grass SW/GW-SAND/GRAVEL (FILL), loose, fine sand, fine gravel, well graded, tan/off-white, dry	0.50	CONCRETE	1GP		75	0 / 0
4	SM-SILTY SAND (FILL) (foundry sand), slightly consolidated, fine grained, well graded, gray, dry	3.50					
6	SW/GW-SAND/GRAVEL (FILL), loose, fine sand, fine gravel, well graded, tan/off-white, dry	4.00	BENTONITE GROUT	2GP		40	0 / 0
8	SW-SAND (FILL), loose, fine to medium grained, well graded, brown/dark gray, dry	4.50	2-3/4 BOREHOLE				
10	SM-SILTY SAND (FILL), consolidated, fine grained, dark brown, dry	7.50	SAND				
12	SW/GW-SAND/GRAVEL (NATIVE), loose, medium to coarse sand, fine gravel, well graded, tan/light brown, dry	9.00	0.5 WELL SCREEN	3GP-10-11'		55	0 / 0
14			WELL DETAILS				
16			Screened interval: 10 00 to 11.00ft BGS				
18			Length: 1ft Diameter: 0.5in Material: TEFLO LINER POLYETHYLENE				
20			Seal: 2.00 to 9 00ft BGS Material: BENTONITE GROUT				
22	- wet at 22.3ft BGS		Sand Pack: 9.00 to 11.00ft BGS Material: SAND				
24	END OF BOREHOLE @ 24.0ft BGS	24.00		6GP NEG SUDAN N		65	0 / 0
26							
28							
30							
32							
34							
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND CHEMICAL ANALYSIS							

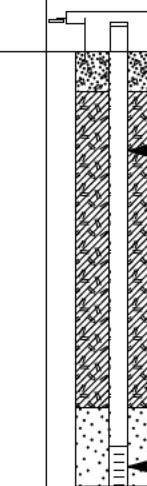


**STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)**

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PROJECT NAME: SOUTH DAYTON DUMP AND LANDFILL SITE
PROJECT NUMBER: 038443
CLIENT: PRP GROUP
LOCATION: MORaine, OHIO

HOLE DESIGNATION: GP35-19
DATE COMPLETED: January 15, 2019
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH BGS	GAS PROBE	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N VALUE
2	TOPSOIL ML-SILT, little clay cohesive, dark brown, moist SW/GW-SAND/GRAVEL, loose, fine, medium and coarse sand, fine gravel, well graded, tan/brown, dry	0.17 / 1.00		1GP		35	0 / 0
6	- 2" silty sand at 5.7ft BGS			2GP		56	0 / 0
10				3GP- 10-11'		63	0 / 0
16	- wet at 15.7ft BGS			4GP 14.5-15.5 NEG SUDAN IV		63	0 / 0
20	END OF BOREHOLE @ 20.0ft BGS	20.00		5GP		40	0 / 0
22							
24							
26							
28							
30							
32							
34							
<p>NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE WATER FOUND  CHEMICAL ANALYSIS </p>							

Attachment 2

Table 1

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Soil Gas Probes - Field Parameters - March 2018
South Dayton Dump Landfill
Moraine, Ohio

Location	Field Parameters							
	Pressure (in WC)	CO ₂ % v/v	O ₂ % v/v	LEL % v/v	Methane % v/v	H ₂ S (ppm)	VOC (ppm)	
GP01-18	-0.0211	7.3	0.0	>100	21.6	0	0.0	
GP02-09	0.00368	11.4	0.0	>100	14.6	0	0.0	
GP03-09	-0.00260	0.0	20.9	0	0.0	0	0.6	
GP04-09	-0.00937	2.9	1.5	13	0.7	0	0.3	
GP05-09	-0.00331	5.8	9.2	0	0.0	0	1.1	
GP06-09				Could not be found (flushmount)				
GP07-09				Under a tire pile (flushmount)				
GP08-09				Could not be found (stick up)				
GP09-09	-0.00233	2.8	20.2	0	0.0	0	0.6	
GP10-09 ²	0.00253	2.9	0.0	7	0.4	0	0.7	
	0.00371	2.9	0.0	7	0.3	0	0.6	
GP11-09	-0.00341	2.8	19.5	0	0.0	0	0.5	
GP12-09	-0.0241	0.1	21	0	0.0	0	0.0	
GP13-09	-0.0158	8.5	2.1	0	0.0	0	0.2	
GP14-09	0.00243	1.2	18.3	0	0.0	0	0.5	
GP15-09	-0.01462	5.3	14.6	0	0.0	0	0.9	
GP16-09	-0.00976	5.4	0.0	50	2.5	0	0.4	
GP17-09				Buried under asphalt				
GP18-09				Buried under asphalt				
GP19-18	-0.0494	8.5	0.3	63	3.2	0	4.8	
GP20-18	-0.0272	8.3	4.1	0	0.0	0	3.0	
GP21-09	-0.0572			Restricted pump flow on GEM2000+ and PID (valve open)				
GP22-13	-0.0393	9.8	0.0	0	0.0	0	0.2	
GP23-13	-0.00476	5.4	14.9	0	0	0	0.1	
GP24A-13	-0.00728	7.3	13.0	0	0.0	0	0.1	
GP24B-13	-0.00069	3.7	17.8	0	0.0	0	0.0	
GP25-18	-0.00585	5.2	0.6	58	2.9	0	0.0	
GP26-18	-0.0301	7.7	0.0	51	2.5	0	3.3	
GP27-18	0.00217	4.7	0.0	17	0.8	0	20.2	
GP28-18	0.00323	3.8	0.0	>100	5.3	0	6.5	
GP29-18	-0.0213	4.4	2.5	7	0.3	0	10.6	
GP30-18	-0.00732	0.0	20.7	0	0.0	0	0.3	
GP31-18	0.0152	0.5	19.7	0	0.0	0	2.0	
GP32-18	0.01553	9.2	8.0	0	0.0	0	0.0	
GP33-18	-0.0301	11.9	2.5	0	0.0	0	0.0	
USEPA GP-1 North	-0.462	1.7	19.6	0	0.0	0	0.0	
USEPA GP-1 Middle	-0.00342	0.6	20.7	0	0.0	0	0.0	
USEPA GP-1 South	-0.431			No flow on GEM2000+; No flow PID				
USEPA GP-2				Excluded from Field Parameter Monitoring				
USEPA GP-3 North	-0.00769	2.2	19.1	0	0	0	0.1	
USEPA GP-3 SW	0.00512	1.1	19.6	0	0	0	0	
USEPA GP-3 SE	0.00225			No flow on GEM2000+; No flow PID				
USEPA GP-4 North	-0.00813	2.5	17.7	0	0.0	0	0.1	
USEPA GP-4 Middle	-0.00971	2.4	18.8	0	0.0	0	0.0	
USEPA GP-4 South	-0.00778	2.2	19.2	0	0.0	0	0.0	
USEPA GP-5 North	-1.115	4.7	15.6	0	0.0	0	0.0	
USEPA GP-5 South	-0.00637	4.4	16.2	0	0.0	0	0.0	
USEPA GP-6 North	-0.00475	3.2	17.5	0	0.0	0	0.0	
USEPA GP-6 Middle	-0.00168	4.0	16.4	0	0.0	0	0.0	
USEPA GP-6 South	-0.00316	5.1	14.4	0	0.0	0	0.0	
USEPA GP-7				Could not be found				

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

3/22/2018

Barometric Pressure

29.48" Hg

CO₂ Carbon DioxideO² Oxygen

LEL Lower Explosive Limit

H₂S Hydrogen Sulfide

VOC Volatile Organic Compounds

BTOR Below Top of Riser

% v/v Percent by Volume

in WC Inches Water Column

Rel Pressure

-0000.08" 0

Weather

Clear, sunny, 34° F

Forecast

Sunny, 48° F

Table 2a

Page 1 of 1

Soil Gas Probes - Field Parameters - August 2018
South Dayton Dump Landfill
Moraine, Ohio

Location	Field Parameters							
	Pressure (in WC)	CO ₂ % v/v	CO ppm	O ₂ % v/v	LEL % v/v	Methane (Unfiltered) % v/v	H ₂ S (ppm)	VOC (ppm)
GP01-18		16.4	0	0.0	>100	35.4	1	2.6
GP02-09		13.1	1	0.0	>100	14.8	8	0.0
GP03-09		6.4	0	11.5	0	0.0	0	0.0
GP04-09		5.5	1	0.2	5	0.2	0	0.0
GP05-09		10.2	1	7.3	0	0.0	0	0.0
GP06-09		4.7	77	13.8	3	0.1	0	36.4
GP07-18		14.3	57	0.0	>100	60.4	6	205.0
GP08-09		Insufficient gas flow. No readings.						
GP09-09		7.9	0	12.1	0	0.0	0	0.0
GP10-09		2.9	1	0.0	0	0.0	0	0.0
GP11-09		6.4	0	12.5	0	0.0	0	0.0
GP12-09		0.9	0	18.8	0	0.0	0	0.0
GP13-09		14.3	0	0.0	0	0.0	0	0.0
GP14-09		3.3	0	16.2	0	0.0	0	5.4
GP15-09		6.3	0	12.8	0	0.0	0	0.0
GP16-09		9.7	0	0.0	13	0.7	0	0.0
GP19-18		11.2	1	0.0	40	2.0	2	0.0
GP20-18		10.7	1	2.4	0	0.0	0	0.0
GP21-09		1.8	0	0.0	33	1.6	1	0.0
GP22-13		9.3	1	0.0	1	0.0	0	0.0
GP23-13		7.2	0	10.7	0	0.0	0	0.0
GP24A-13		11.8	0	5.5	0	0.0	0	0.0
GP24B-13		6.7	1	11.7	0	0.0	0	0.0
GP25-18		3.8	1	1.6	64	3.2	6	0.0
GP26-18		9.6	4	0.0	52	2.6	0	0.0
GP27-18		7.7	1	0.0	10	0.5	0	2.7
GP28-18		4.5	1	0.0	>100	7.0	2	0.0
GP29-18		5.0	1	0.0	1	0.0	0	0.0
GP30-18		0.0	0	20.0	0	0.0	0	0.0
GP31-18		0.9	0	18.9	0	0.0	0	0.0
GP32-18		17.0	0	0.2	4	0.2	0	0.1
GP33-18		13.1	0	1.0	0	0.0	0	0.0
GP34-18		10.2	0	6.3	0	0.0	0	0.0
USEPA GP-1 Nor h		3.4	1	15.5	0	0.0	0	0.0
USEPA GP-1 Middle		2.3	1	16.9	0	0.0	0	0.0
USEPA GP-1 South		Insufficient gas flow. No readings.						
USEPA GP-2		Excluded from Field Paramters Monitoring						
USEPA GP-3 North		Probe could not be located. No readings.						
USEPA GP-3 SW								
USEPA GP-3 SE								
USEPA GP-4 North		6.7	0	2.9	0	0.0	0	3.1
USEPA GP-4 Middle		6.8	0	2.5	0	0.0	0	2.9
USEPA GP-4 South		6.1	0	2.1	0	0.0	0	2.7
USEPA GP-5 North		4.7	0	12.8	0	0.0	0	2.7
USEPA GP-5 South								
USEPA GP-6 North		7.0	0	7.6	0	0.0	0	3.1
USEPA GP-6 Middle		7.6	0	6.7	0	0.0	0	2.9
USEPA GP-6 South		8.1	0	5.7	0	0.0	0	2.7
USEPA GP-7		Probe could not be located. No readings.						

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

8/24/2018

Barometric Pressure

29.34-29.38" Hg

Weather

Clear, 58° F

Forecast

Sunny, 81° F, possible afternoon rain

CO ₂	Carbon Dioxide
O ²	Oxygen
LEL	Lower Explosive Limit
H ₂ S	Hydrogen Sulfide
VOC	Volatile Organic Compounds
BTOR	Below Top of Riser
% v/v	Percent by Volume
in WC	Inches Water Column

Table 2b

Page 1 of 1

Soil Gas Probes - Field Parameters - September 2018
South Dayton Dump Landfill
Moraine, Ohio

Location	Field Parameters									
	Pressure (in WC)	CO ₂ % v/v	CO ppm	O ₂ % v/v	LEL (Unfiltered) % v/v	LEL (Filtered) % v/v	Methane (Unfiltered) % v/v	Methane (Filtered) % v/v	H ₂ S (ppm)	VOC (ppm)
GP01-18	0.0212	16.40	0	0.10	>100	>100	34.60	34.7	0	
GP02-09	0.01557	13.50	0	0.10	>100	>100	14.60	14.6	0	
GP03-09	0.00377									
GP04-09	0.0245									
GP05-09	0.00054 to -0.00231									
GP06-09	-0.00247									
GP07-18	-0.00289	14.70	36	0.00	>100/>100	6	39.4/39.3	0.30	0	
GP08-09	0.00011 to -0.00173									
GP09-09	0.00112									
GP10-09	-0.00073									
GP11-09	-0.00690									
GP12-09	-0.00594									
GP13-09	-0.00843									
GP14-09	-0.00326									
GP15-09	-0.00776									
GP16-09	-0.0240	11.30	0	0.00	28	28	1.40	1.40	0	
GP19-18	0.00805									
GP20-18	0.0143									
GP21-09	-0.00252	2.10	0	0.10	37	37	1.80	1.80	0	
GP22-13	0.00241									
GP23-13	-0.00285									
GP24A-13	-0.00408									
GP24B-13	-0.00619									
GP25-18	-0.00025 to 0.00029	3.70	0	1.60	64	61	3.20	3.00	0	
GP26-18	0.0207	10.10	0	0.00	41	40	2.00	2.00	0	
GP27-18	0.00130									
GP28-18	0.00625	4.80	0	0.10	97	96	4.70	4.60	0	
GP29-18	0.01073									
GP30-18	-0.00037									
GP31-18	-0.00707									
GP32-18	0.209									
GP33-18	-0.0146									
GP34-18	0.00442									
USEPA GP-1 North	0.00013 to -0.00133									
USEPA GP-1 Middle	-0.00356									
USEPA GP-1 South	-0.0212									
USEPA GP-2	Excluded from Field Parameter Monitoring									
USEPA GP-3 North	-0.1407	5.20	0	11.30	0	n/a	0.00	n/a	0	
USEPA GP-3 SW	-0.00131	3.80	0	14.70	0	n/a	0.00	n/a	0	
USEPA GP-3 SE	0.00348 to -0.00257					Insufficient flow to collect readings				
USEPA GP-4 North	0.00245 to -0.00017									
USEPA GP-4 Middle	-0.422									
USEPA GP-4 South	-0.00352									
USEPA GP-5 North	0.00912									
USEPA GP-5 South										
USEPA GP-6 North	-0.00225									
USEPA GP-6 Middle	0.00046 to -0.00177									
USEPA GP-6 South	-0.00317									
USEPA GP-7 West	-0.00148	8.00	0	9.60	0	n/a	0.00	n/a	0	
USEPA GP-7 Middle	0.00022	8.20	0	9.90	0	n/a	0.00	n/a	0	
USEPA GP-7 East	-0.00078 to 0.00125	6.20	0	12.20	0	n/a	0.00	n/a	0	

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

9/4/18-9/5/18

Barometric Pressure

29.38-29.42" Hg

CO₂ Carbon Dioxide
 O₂ Oxygen
 LEL Lower Explosive Limit
 H₂S Hydrogen Sulfide
 VOC Volatile Organic Compounds
 BTOR Below Top of Riser
 % v/v Percent by Volume
 in WC Inches Water Column

Table 3

Page 1 of 1

Soil Gas Probes - Field Parameters - November 2018
South Dayton Dump Landfill
Moraine, Ohio

Location	Field Parameters									
	Pressure (in WC)	CO ₂ % v/v	CO ppm	O ₂ % v/v	LEL (Unfiltered) % v/v	LEL (Filtered) % v/v	Methane (Unfiltered) % v/v	Methane (Filtered) % v/v	H ₂ S (ppm)	VOC (ppm)
GP01-18	-0.00230	12.2	0	0.0	>100	>100	27.6	27.1	0	0.0
GP02-09	-0.0217	14.2	0	0.8	>100	>100	17.3	17.1	0	0.0
GP03-09	0.00314				Insufficient flow to collect readings, probe appear to be flooded					
GP04-09	-0.0120	0.0	0	21.4	3	14	0.1	0.7	0	0.0
GP05-09	0.00700	6.7	0	11.5	3	3	0.1	0.1	0	0.1
GP06-09	-0.00375	2.3	0	15.7	0	0	0.0	0.0	0	0.0
GP07-18	0.00562	13.4	5	0.0	>100	4	5.2	0.2	3	55.8
GP08-09	-0.00601				Insufficient flow to collect readings					
GP09-09					Inaccessible, covered by wood pile					
GP10-09	-0.01253	4.0	0	0.0	5	5	0.2	0.2	0	25.4
GP11-09	-0.00577	4.2	0	16.2	3	3	0.1	0.1	0	0.3
GP12-09	-0.00388	0.3	0	20.9	0	0	0.0	0.0	0	0.7
GP13-09	0.0215	12.2	0	1.6	0	0	0.0	0.0	0	0.0
GP14-09	0.00134	2.3	0	18.7	0	0	0.0	0.0	0	0.0
GP15-09	0.01163	7.4	0	11.5	0	0	0.0	0.0	0	0.0
GP16-09	0.0278	8.8	0	0.0	29	29	1.4	1.4	0	0.0
GP19-18	-0.0792	11.8	0	0.0	38	36	1.9	1.8	1	0.0
GP20-18	0.0247	13.8	0	0.5	0	0	0.0	0.0	0	0.0
GP21-09	0.01913	0.5	0	12.8	32	42	1.6	2.1	0	0.0
GP22-13	-0.0320	12.2	0	0.1	2	2	0.1	0.1	0	1.4
GP23-13	-0.00931	9.9	0	9.8	0	0	0.0	0.0	0	4.9
GP24A-13	-0.00320	13.9	0	6.2	0	0	0.0	0.0	0	4.6
GP24B-13	-0.013459	6.3	0	12.4	0	0	0.0	0.0	0	6.1
GP25-18	0.00000	4.9	0	2.3	95	95	4.7	4.7	4	0.0
GP26-18	-0.0167	10.2	0	1.1	82	80	4.1	4.0	0	0.0
GP27-18	0.00344	6.2	0	0.9	35	32	1.7	1.6	0	5.4
GP28-18	0.00881	5.4	0	0.9	>100	>100	6.5	6.0	1	0.6
GP29-18	-0.01813	5.9	0	1.9	6	6	0.3	0.3	0	1.0
GP30-18	0.00000	0.0	0	21.1	0	0	0.0	0.0	0	0.4
GP31-18	-0.00169	0.0	0	21.3	0	0	0.0	0.0	0	7.7
GP32-18	-0.01732	14.9	0	4.9	0	0	0.0	0.0	0	0.0
GP33-18	0.00124	15.2	0	0.4	0	0	0.0	0.0	0	0.0
GP34-18	-6.80	9.4	0	9.5	0	0	0.0	0.0	0	4.8
USEPA GP-1 North	-0.1290				Insufficient flow to collect readings					
USEPA GP-1 Middle	-0.0346	1.6	0	20.0	0	0	0.0	0.0	0	25.0
USEPA GP-1 South	-3.18	3.7	0	17.6	0	0	0.0	0.0	0	18.5
USEPA GP-2					Excluded from Field Parameter Monitoring					
USEPA GP-3 North	-0.268	4.2	0	15.0	0	0	0.0	0.0	0	3.0
USEPA GP-3 SW	0.0788	2.2	0	18.5	0	0	0.0	0.0	0	3.8
USEPA GP-3 SE	-0.00453				Insufficient flow to collect readings					
USEPA GP-4 North	0.0141	5.8	0	10.4	0	0	0.0	0.0	0	0.0
USEPA GP-4 Middle	-0.540	6.1	0	11.0	0	0	0.0	0.0	0	0.0
USEPA GP-4 South	0.00098	6.1	0	10.3	0	0	0.0	0.0	0	0.0
USEPA GP-5 North	0.00284	6.8	0	7.7	0	0	0.0	0.0	0	0.0
USEPA GP-5 South	-0.00136	6.3	0	7.9	0	0	0.0	0.0	0	0.0
USEPA GP-6 North					Soil gas probe could not be found due to vegetation, snow and ice.					
USEPA GP-6 Middle										
USEPA GP-6 South										
USEPA GP-7 West	-0.00255	6.6	0	15.1	0	0	0.0	0.0	4.3	0.0
USEPA GP-7 Middle	-0.0073	4.3	0	17.5	0	0	0.0	0.0	0	5.2
USEPA GP-7 East	0.0198	4.3	0	17.4	0	0	0.0	0.0	0	6.2

[1] - North American Datum of 1983 (NAD83), U.S. Survey feet

11/12/18 - 11/14/18

Barometric Pressure

30.01"-30.55" Hg

CO₂ Carbon Dioxide
 O² Oxygen
 LEL Lower Explosive Limit
 H₂S Hydrogen Sulfide
 VOC Volatile Organic Compounds
 BTOR Below Top of Riser
 % v/v Percent by Volume
 in WC Inches Water Column

Attachment 3

CONTENTS

038443-330

8/14/19

0742 G. LEWIS, Q. MC LAUGHLIN ONSITE

* WEATHER: CLEAR, 67°F; FORECAST
Sun. 85°F

* ACTIVITIES: Below Summa Consider
Sampling @ SV Proses

0745 @ WMR ON SITE @ SDO TO DROP-
OFF ROLL-OFF BOX FOR DP: L

DRILLING SOIL

* No liner, no books, no tape,
holes in container bottom

② BUILD 2nd "TRANE" SET-UP FOR
Sigma Sampling

(600) DECAN Paris + BAKE @ 200°F
For 20 mins.

0015 BRETT (JACOBS) 0016

* Reviewing RPT. 31 for Protocol.

FIND "48 HOUR" WAIT TIME IN

SAP (AFTER >.5" Rain)

- Call Julian H. TO ENCLURE.

~~THE~~ L.M. ON WORK. PAGE 15

Fayenne, Penn. Feb. 15, '05

1/24/11 8:00 AM

1991-1992

MANSON AIRPORT, RAW TOTALS IN

98 ws.

8/14/18 Cont'd...

0855 @ [GP21-09]

CANID * # 10823 - FC # 10074

0902 -3" Hg He in TRANE

* APPLY He TO PRO-CASE

0911 He in Pro-Case @ 72.4%

0913 He in TRANE @ 0 ppm

0914 BEGAN PURGE; VALVE ON
SGP "OPENED"

PURGE @ 200 mL/min FOR 2.25 min.

0919 He @ 84%

- TAKE PRE-SAMPLE READINGS.

0925 He in TRANE @ 0 ppm

→ (0926) SVA-38443-081418-EL-001

BP @ 29.23 mHg

0946 SUMMA GAUGE @ -19½ " Hg

1004 SUMMA GAUGE @ -10" Hg.

1025 CAN @ -5" Hg; He in PC @ 98.9%

POST SAMPLE: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC

He in TRANE 1.7% | 34% | 0.4% | 1.7% | 0 ppm | 0.0 ppm
@ 98.9%
EL 750 ppm

1036 @ [GP04-09]

* CAN # 10027 - FC - 10767

1038 -4" Hg He in TRANE

1039 71.4% He in Pro-Case

8/14/18 Cont'd...

1039 375 ppm He in TRANE

1040 BEGAN PURGE OF GP04-09

SET TIMER FOR 4:36 MINUTES

* SGP OPENED

1046 He in TRANE @ 94.8%

TAKE PRE-SAMPLE READINGS.

1048 He in TRANE 1300 ppm.

→ (1050) SVA-38443-081418-EL-002

BP @ 29.23 mHg

1110 SUMMA CAN @ -21" Hg

1148 SUMMA CAN @ -7" Hg

1150 98.4% He in Pro-Case

* 225 ppm in TRANE

1156 CAN @ -6" Hg; He in PC @ 98.9

POST SAMPLE: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
He in TRANE 0.2% | 4% | 0.3% | 5.1% | 0 ppm | 0 ppm
@ 225 ppm

1203 @ SITE TRAILER TO DECON SAMPLE

TRAMES ? PIEXI-Glass THROUGH PORTS.

* ALCOHOL WASH: DI RINSE; 20 min @ 200°C

BAKE

1238 @ [GP05-09]

CAN # 11194 ; FC - 10872

1246 -6" He Hebs in TRANE

1247 89.4% He in TRANE

8/14/18 Cont.

1248 0 ppm He in TRANE

1250 BEGIN 3:15 MINUTE PURGE
@ 200 ml/min

1253 He in PC @ 89.4%

TAKE PRE-SAMPLE READINGS:

1256 He in TRANE @ 0 ppm

↳ (1257) SVA-38443-081418-6L-003

BP @ 29.22 mm Hg

1322 Summa Can @ -22" Hg

1355 Summa Can @ -6" Hg

1359 CAN @ -5" Hg; He in PC @ 91.6%

Best Sample: C₆₄ | LEL | CO₂ | O₂ | H₂S | VAC
 He in TRANE 0% | 0% | 8.8% | 8.9% | 0 ppm | 0.0 ppm
 @ 0 ppm

1411 @ GP 03-09

CAN = 09941; FC - 11440

1415 -4" Hg HELD IN TRANE

1418 87.8% He in PRO CASE

1419 275 ppm in TRANE

1421 BEGIN PURGE @ 200 ml/min FOR
2:25 MINUTES

1425 He in PC @ 91.1%; He in
TRANE @ 0 ppm

TAKE PRE SAMPLE READINGS

1428 He in TRANE @ 0 ppm

→

↳ (1428) SVA-38443-081418-6L-004

BP @ 29.20 mm Hg

1517 Summa Can @ -5" Hg; SHUT
CAN @ 1518

He in PC @ 95.8%; He in
TRANE @ 0 ppm

1530 @ SITE TRAILER TO DECON 2 TRANE
SETS AND PEXI-GLASS FITTINGS

BLENDING; DI RINSE; BAKE @ 200°F FOR
20 MINUTES.

1607 @ GP-26-18

* CAN = 10564; FC - 10619

1418 -5½" Hg HELD IN TRANE

1421 - 91.4% He in PRO CASE

1423 - 3100 ppm in TRANE (< 10% Pass)

1423 BEGIN PURGE OF ¾" TUBE (PROBE)
0:48 MINUTES

He in PC @ 96.4%; He in TRANE @
125 ppm

TAKE PRE SAMPLE READINGS

1428 He in TRANE @ 0 ppm

↳ (1429) SVA-38443-081418-6L-005

BP @ 29.17 mm Hg

1654 Summa Can @ -16" Hg

1709 Summa Can @ -10" Hg

→

8/14/18 CON'T.

1728 Can @ -5 "Hg; He in PC @ 95.3%

Post Sample: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
He in TRANE 2.4% | 49% | 0.4% | 9.0% | 0 ppm | 0.2 ppm
@ 0 ppm

1736 @ GP25-18

* CAN # 10191; FC - 11596

1745 -5" Hg He in TRANE

1746 92.9% He in Pre Case

1747 1140 ppm He in TRANE

1747 BEGIN PURGE @ 200 ml/min;

PURGE TIME 0:53 MINUTES FOR

3/8" TUBE (SV PURGE)

He in PC @ 96.6%; He in TRANE @
150 ppm; OKAY TO SAMPLE

BEGIN PRE SAMPLE READINGS.

1753 He in TRANE @ 110 ppm

→ (1753) SVA-38443-081418-EL-006

BP @ 29.18 mmHg

1815 Summa Can @ -21" Hg

1846 Summa Can @ -10" Hg

1901 Summa Can @ -6 1/2" Hg

1907 CAN @ -6" Hg; He @ PC 96.8%

Post Sample: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
He in TRANE 3.3% | 67% | 0.3% | 3.8% | 4 ppm | 0.4 ppm
@ 2700 ppm

1940 G. LEWIS OFFSITE AFTER
OFF-CLOAD.

38443-330

8/15/18

0745 G. LEWIS, C. McLAUGHLIN
ONSITE

* WEATHER: PARTLY CLOUDY, 69°F,
FORECAST PARTLY CLOUDY, 50%
CHANCE OF STORMS.

* ACTIVITIES: CONTINUE SOIL VAPOR
SAMPLING ACTIVITIES.

0750 TESM + DECON OF ALL
FITTINGS

* LOAD VAN w/ EQUIPMENT

0855 SET UP @ GP 28-18

CAN ID: 10770; FC - 09959

CAN ID: 10685; FC - 10673

0859 APPLIED VACUUM -5 mm Hg
HELD IN TRANE

0902 70.7% H₂ IN TRANE

0903 0 ppm OR HE IN TRANE

0905 * BEGIN PURGE
0:42 MIN FOR 3/8" TUBE
He in PC @ 91.1%; He in

TRANE @ 1150 ppm; PASS



8/15/18 CONT'D

* BEGIN PRE SAMPLE READINGS
BP @ 29.29" Hg

0912 He IN TRANE @ 2500 ppm

0912 OPEN CANS

↳ SVA - 38443-081518-GL-00710685
CAN #

↳ SVA - 38443-081518-GL-008

0957 SUMMA CAN @ - 6" Hg

SUMMA CAN @ - 7" Hg

0959 He IN PC @ 80.4%

He IN TRANE @ 2500 ppm

POST SAMPLE: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
7.5% | >100 | 0.1% | 4.8% | 0 ppm | 2.2 ppm

He IN TRANE: 2500 ppm

1015 SET UP @ [GP 29-18]

CAN # 11613; FC # 09882

1023 He HELD IN TRANE @ 1375 ppm

1024 He IN PRO CASE @ 581 ppm

1026 BEGIN PURGE @ 200mL/min

FOR 36 SECONDS

3/8" TUBE (SV PROBE)

He IN PC 92.5%; He IN TRANE 0%

OK TO SAMPLE

0 ppm IN TRANE

1031 BEGIN TO SAMPLE

↳ SVA - 38443-081518-GL-009
BP @ 29.28

OVER →

8/15/18 cont'd

1053 SUMMA CAN @ - 20" Hg

1110 SUMMA CAN @ - 18" Hg

1134 SUMMA CAN @ - 6" Hg

1140 CAN @ - 4.5" Hg

POST SAMPLE: CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
0.1 | 2% | 0.2% | 5.0% | 0 ppm | 2.3 ppm

He IN PC: 75.4%

He IN TRANE: 0 ppm

* 1147 BACK TO TRAILER TO
DECON FITTINGS

1207 - CHANGED OUT He TANKS

1237 SET UP @ [GP 27-18]

CAN # 09974; FC 11290

1249 He HELD IN TRANE @ -5.1" Hg

1250 He IN PC @ 88.8%

1252 He IN TRANE @ 0 ppm

1254 BEGIN TO PURGE @ 200mL/min
FOR 0:30 min

He IN PC 88.7%; He IN TRANE @ 0 ppm

OK TO SAMPLE

1259 BEGIN TO SAMPLE

↳ SVA - 38443-081518-GL-010
BP 29.27

→ OVER

08/15/18 contn'd

- 1319 SUMMA CAN @ -20" Hg
 1334 SUMMA CAN @ -17" Hg
 1349 SUMMA CAN @ -7.5" Hg

* SEAMUS TELLER ON SITE FROM
 1500 - 1355 TO HELP LOCATE
 GP 06-09 GP 08-09

1359 CAN @ -5" Hg
 He IN PC ^{PC} ~~TRANS~~ 82.2%

POSTSAMPLE CH₄ | LEL | O₂ | CO₂ | H₂S | VOC
 0.7% | 14% | 0.2% | 7.7% | 0 | 6.5 ppm
 He IN TRANS 0 ppm

1411 SETUP @ GP 02-09

CAN ID # 09872; FC 10612

1416 He IN TRANS -6"

1417 He IN PC -58%

1418 BEGIN PURGE @ 200 mL/min

FOR 3:15 3/8" TUBE (SUPPLY)

1418 He IN TRANS 0 ppm

He IN PC 86.9%; He IN TRANS 1250 ppm

OK TO SAMPLE

1425 BEGIN TO SAMPLE

L> SVA-38443-081518-61-011
 BP @ 29.26

OVER →

8/15/18 contn'd

- 1452 SUMMA CAN @ -15" Hg
 1508 SUMMA CAN @ -11" Hg
 1510 SUMMA CAN @ -9" Hg
 1519 CAN @ -5" Hg

He IN PC ~~PC~~ 86.6% He IN TRANS 3850 ppm

POSTSAMPLE	CH ₄	LEL	O ₂	CO ₂	H ₂ S	VOC
	15.3%	>100%	0.2%	12.9%	3 ppm	0 ppm

He IN TRANS: 3850 ppm

1529 BACK TO TRAILER TO DECON

1602 SETUP @ GP 11-09

CAN ID # ; FC

1603 He IN TRANS -6" Hg

1604 He IN PC - 56.4% * ~~82.4%~~ ~~82.4%~~

1605 BEGIN PURGE @ 200 mL/min

FOR 3:37 min 3/8" TUBE (SUPPLY)

He IN TRANS

He IN PC 82.4%; He IN TRANS 75 ppm

OK TO SAMPLE

1615 BEGIN TO SAMPLE

L> SVA-38443-081518-61-012

BP @ 29.28

1653 SUMMA CAN @ 25" Hg

1705 SUMMA CAN @ 20" Hg

1729 SUMMA CAN @ 11" Hg

OVER →

8/15/18 CONT'D

*GEM 2000 SHOWING RESTRICTED FLOW
1758 CAN @ -5" Hg

POST SAMPLE:	/H ₂	LEL	O ₂	CO ₂	H ₂ S	VOC
	Ø	Ø	12.0%	7.3%	Ø	Ø ppm

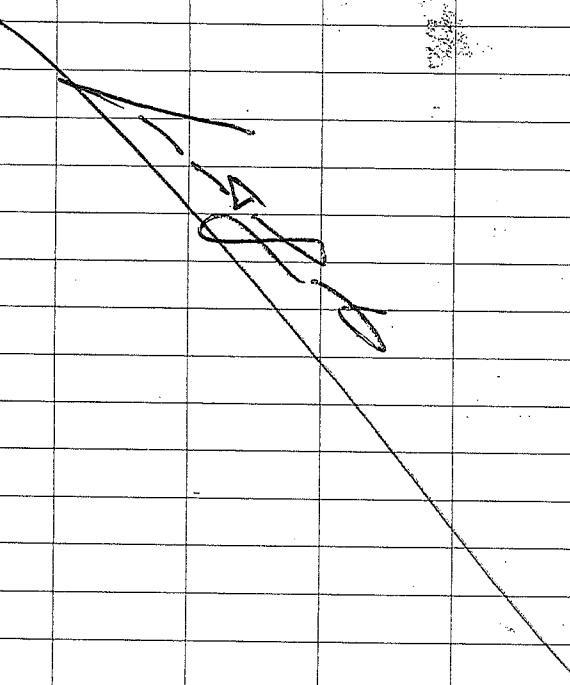
He IN PC 82.1%

He IN TRANE Ø ppm

1810 HEAD TO TRAILER TO DECOR

? Put Away EQUIP.

1830 OFF SITE



088443-330

8/20/18

0700 S. TREDICK, G. LEWIS ONSITE

* TESM ; Ø " RAW PAST 24 hrs.

WEATHER: MOSTLY CLOUDY

ACTIVITIES: CONTINUE SOIL VAPOR
SAMPLING

0910 EQUIP. CALIBRATIONS; ISO Form

0935 MOB TO MEGA-CITY

0937 @ [GP-12-09]

CAN = 11323 : FC = 11010

0940 He IN 'PRO-CASE' @ 62.7%

0940 * He IN TRANE @ 200 ppm

0943 BEGIN PURGE @ 200 ml/min

FOR 2:57 MINUTES

0947 He IN PC @ 50.2% ; He
IN TRANE @ 25 ppm

* OK TO SAMPLE; TAKE
PRE-SAMPLE READINGS

Lp (0952) SVA-38443-082018-LL-013

0952 * BP @ 29.24 mm/Hg

1025 Summa Can @ -13" Hg

1042 Summa Can @ -7" Hg

1050 He IN PC @ 97.9%; CAN @ -5"

POST SAMPLE:	O ₂	CO ₂	CH ₄	LEL	H ₂ S	VOC
	19.3%	0.9%	0.1%	3%	Ø ppm	Ø ppm
	@ 150 ppm					

He

8/20/18 cont...

1100 (2) GP 13-09

Can 10 #: 11677 ; FC - 10083

1104 He in PRO CASE @ 60.8% ;
He in TRANE @ 3200 ppm

1107 -5" Hg held in TRANE

1108 BEGIN PURGING PROBE
@ 200 mL/min FOR 2:55
MINUTES

1112 He in PC @ 94.5% ; He in
TRANE @ 8 ppm

1112 Good TO SAMPLE ; TAKE
PRE-SAMPLE READINGS

(1115) L SVA-38443-082018-GL-014

BP @ 29.19 min/Hg

1140 Summa Can @ -19" Hg

1201 Summa Can @ -9" Hg

1215 He in PC @ 98.6%

1217 Summa Can @ -5" Hg

POST SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He in TRANE 0% | 0% | 14.6% | 0.1% | 0 ppm | 0.3 ppm
@ 0 ppm

1225 (2) SITE TRAILER TO DECON
FITTINGS

* ALCANOX DI RUISE; BAKE @ 200°
FOR 25 mins

8/20/18 cont...

1302 (2) GP 14-09

Can 10 #: 09770 ; FC - 10253

DUPPLICATE SAMPLE # 10238 ; FC - 10024
1309 He in PRO-CASE @ 93.3% ;
He in TRANE @ 75 ppm

1311 TRANE HOLDING @ -5" Hg

1312 BEGIN PURGING @ 200 mL/min
FOR 2:44 MINUTES

1316 He in PC @ 81.6% ; He in TRANE
@ 150 ppm ; GOOD TO SAMPLE
* TAKE PRE-SAMPLE READINGS

L (1321) SVA-38443-082018-GL-015

SVA-38443-082018-GL-016

1320 He in PC @ 89.9% ; He in TRANE
125 ppm ; BP @ 29.14 min/Hg

1348 Summa CANISTERS @ -17" Hg ; -75" Hg

1415 Summa CANISTERS @ -7" Hg ; -6% //

1421 CLOSE CANISTERS ; He in PC @ 75.1%

POST SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He in TRANE 0% | 0% | 3.4% | 15.6% | 0 ppm | 0.4 ppm
@ 225 ppm

-5" Hg SAMPLE - 015 ; CAN # 09770

-6" Hg SAMPLE - 016 ; CAN # 10238

8/20/18 Cont.

1434 @ [GP 15 - 09]

CAN ID# 1014; FC - 09567

1442 He in PRO-CASE @ 75%

He in TRANE @ 0 ppm

1443 TRANE Holds -5" Hg

1444 BEGIN PURGE @ 200 ml/min
FOR 3:42 MINUTES

1448 He in PC @ 90.3%; He in
TRANE @ 0 ppm

1449 TAKE PRE-SAMPLE READINGS

L (1451) SVA-38443-082018-GL-017
BP @ 29.09 mHg

1518 Summa Canister @ -16" Hg

1545 Summa Can @ -6" Hg

* RAIN SYSTEM ALMOST OVER
SITE

1550 He in PC @ 91.3%; CLOSE CANISTER

Post Sample:	C ₂ H ₆	LEL	CO ₂	O ₂	H ₂ S	VOC
He in TRANE	0%	0%	6.4%	13.6%	0 ppm	i.4 ppm

@ 0 ppm

1557 PACK-UP @ PROBE TO GO DECON
FITTINGS.

1625 OFF SITE

038443-330

8/21/18

0920 G. LEWIS, S. FREDRICK ON SITE
TEST & PUT DECON'S FITTINGS TOGETHER.

WEATHER: PTLY CLOUDY. FORECAST SHOWERS
? MSTLY CLOUDY

ACTIVITIES: ENDT 0.3" RAIN OVERCAST.
EMPTY GAUGE & CONTAINER w/ SUMMA
CANISTER SAMPLING.

0925 EQUIP. CALIBRATIONS / 150 FOAM D
STD.

0955 SET-UP @ [GP 08 - 09]

13' DEEP PROBE FOUND 8/15/18
CAN ID# ; FC -

* HAVE TO UNK EQUIP. TO PROBE

1007 He in PRO-CASE @ 67.7%;
He in TRANE @ 0 ppm

1008 TRANE HOLDS -6" VACUUM

1009 BEGIN PURGING PROBE @ 200 ml/min
FOR 4:30 MINUTES

1011 PERSONAL SAMPLING PUMP (CREATED)
A VACUUM IN TRANE @ 1:37
IN PURGE TIME

* ATTEMPT MULTIRAE: NO FLOW

* ATTEMPT GEM 2000; NO FLOW

1018 AFTER SEVERAL ATTEMPTS TO PURGE
PROBE; SAMPLING EFFORTS WERE

ABD

8/21/18 Cont'd...

DISCONTINUED

* PACK-UP TO MOVE TO
GP-09-18

1041 @ [GP09-18]

CAN ID = 09673 ; FC - 10925

1043 TEST TRANE UAC; HOLDING
-6" Hg

1050 BEGIN HE TEST OF
CONTAINMENT OVER FLUSH MOUNT
1054 HE IN CONTAINMENT @
74.8% ; HE IN TRANE @ 225 ppm
1055 BEGIN PURGING 3/8"
SOIL VAPOR PROBE @ 200 ml/min
FOR 0:38 MINUTES

1057 HE IN TRANE @ 0 ppm ; HE
IN CONTAINMENT @ 88.6%

1058 TAKE PRE-SAMPLE READINGS
↳(1101) SVA-38443-082118-GL-018

1125 SUMMA CANISTER @ -16" Hg

1150 SUMMA CANISTER @ -6" Hg

1155 99.1% HE IN CONTAINMENT

-5" Hg IN SUMMA (CLOSE CAN)

CH₄ | LEL | O₂ | CO₂ | H₂S | VOC

Post Sample: 58.3% | 2100% | 10% | 14.5% | 5 ppm | 29 ppm
HE IN TRANE
0 ppm

8/21/18 Cont'd...

1209 SET-UP @ [GP06-09]

1211 TEST UAC IN TRANE

-5" Hg FOR 35 SEC BEFORE LIGHT
DROP IN 446

1217 @ 54.8% HE IN CANISTER;
0 ppm IN TRANE

1218 BEGIN PURGE @ 200 ml/min
FOR 2:59 MINUTES

CAN ID = 09605 ; FC - 09895

1221 HE IN PC @ 90.2%; HE
IN TRANE @ 0

1222 TAKE PRE-SAMPLE READINGS

↳(1223) SVA-38443-082118-GL-019

BP@ 29.03 ml/Hg

1248 SUMMA CANISTER @ -17" Hg

** 1311 CT. RAIN BEGUN.

1313 SUMMA CAN @ -8 1/2" Hg

* RAIN STOPPED

1324 SUMMA CAN @ -6" Hg ; SHUT OFF
CAN ; HE IN PC @ 90.2%

Post Sample: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
HE IN TRANE 0% | 0% | 4.66% | 19.9% | 0 ppm | 0.0 ppm
@ 0 ppm

1341 @ SIDE TEEPLER TO DECON FITTINGS

After

8/21/18 cont...

1351 HEAVY RAIN IN AREA
1420 ~ 0.2" OF RAIN FELL IN
~ 30 MINUTES

* RAIN HAS STOPPED AT THIS
TIME

* 1422 SET-UP @ GP 10-09
CAN = ; FC -

1432 -6" Hg HELD IN TRANE
- OPEN VALVE ON PROBE TO
TEST Helium IN TRANE ?
PRO-CASE ^{Containment} ON

1436 59.9% He IN CONTAINMENT;
0 ppm IN TRANE

* BEGIN PURGE @ 200 mL/min
FOR 5:37 MINUTES.

1443 He IN CONTAINMENT @ 95.2%;
He IN TRANE @ 0 ppm

* GOOD TO TAKE PRE-SAMPLE READING:

↳ (1445) SVA-38443-082118-6L-020

BP @ 29.04 mbar Hg

1511 SUMMA CANISTER @ -16" Hg

1535 SUMMA CAN -5" Hg; SHUT
OFF CAN; He IN CONTAINMENT 78.7%

Post Sample: CH₄ | C₂H₆ | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.0% | 0% | 2.8% | 0.5% | 0 ppm | 0.0 ppm
@ 0 ppm

8/21/18 cont...

1550 SET-UP @ GP09-09
CAN ID = 09546; FC - 11439

1555 SWITCH OUT Helium CANISTERS
* NOT ENOUGH FLOW TO ACHIEVE
> 50%; VAC HELD @ -6" Hg

1559 He IN CONTAINMENT 59.6%;
He IN TRANE

1600 BEGIN PURGE PROBE @ 200 mL/min
FOR 2:14 MINUTES

1602 He IN CONTAINMENT 94.7%; He IN
TRANE @ 0 ppm

* GOOD FOR PRE-SAMPLE READINGS:

↳ (1605) SVA-38443-082118-6L-021

1632 SUMMA CANISTER @ -18" Hg

1655 SUMMA CANISTER @ -8" Hg

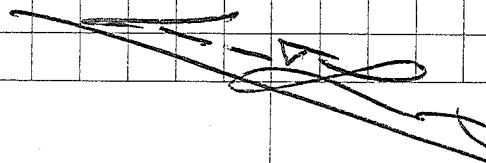
1710 CAN @ -5½"; He IN CONTAIN. @ 55.7%

Post Sample: CH₄ | C₂H₆ | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.0% | 0 | 8.3% | 11.2% | 0 ppm | 0.0 ppm
@ 0 ppm

1713 CLEAN-UP @ BARNETT PROPERTY

TO FINISH-OUT TODAY

1745 LEAVE SITE



38443-330

8/22/18

0700 G. LEWIS, S. TEDRICK ONSITE
TESM; SITE RAIN GAUGE @ 0.2"
WEATHER: CLEAR, 63°F; FORECAST
SUNNY, 75°F

ACTIVITIES: CONTINUE SOIL VAPOR
SAMPLING

* EMPTY RAIN GAUGE

0715 EQUIP. CALIBRATIONS PER
ISO FORM D STANDARDS

0730 LOAD EQUIPMENT TO BEGUN
SAMPLE.

0734 @ GP 34-18
CAN ID 11533; 10899 - FC

0735 TRANE HOLDING ~6" Hg VACUUM

0736 He in Containment @ 69.7%;
He in TRANE @ 0 ppm

0737 BEGIN PURGING PROBE @ 200 ml/min.
FOR 0.31 MINUTES

0740 He in Containment @ 60.7%;
He in TRANE @ 0 ppm

* TAKE PRE-SAMPLE READINGS

↳ (0743) SVA-38443-082218-GL-022

BP @ 29.26 mHg

WTA

8/22/18 Cont...

0813 SUMMA CANISTER @ -17" Hg
0824 SUMMA CANISTER @ -10" Hg
0841 He in Containment @ 87.7%
0846 SUMMA CAN @ -5½" Hg; TURN OFF
POST SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He in TRANE 0% | 0% | 11.0% | 6.8% | 0 ppm, 0 ppm
@ 0 ppm

0856 SET-UP @ GP 24B-09
CAN ID 10527; FC - 11113

0903 TRANE HOLDS -7" Hg

0906 He in Containment @ 56.6%;
He in TRANE @ 0 ppm

0907 BEGUN PURGE @ 200 ml/min.
FOR 5:57 (ONLY BOREHOLE

LOG FOR 24 SHOWS 20' DEEP;

BOTH PROBES WILL BE PURGED FOR
THIS AMOUNT OF TIME).

0914 He in Containment @ 54.4%;
He in TRANE @ 0 ppm

* TAKE PRE-SAMPLE READINGS

↳ (0917) SVA-38443-082218-GL-023

BP @ 29.28 mHg

0939 SUMMA CANISTER @ -18" Hg

1003 SUMMA CANISTER @ -9" Hg

1013 He in Containment @ 73.4%

WTA

8/22/18 Cont...

1013 Summa Canister @ -5" Hg;
Shut-off

Post Sample:

He in TRANE	CH ₄	LEL	CO ₂	O ₂	H ₂ S	VOC
@ 0 ppm	0%	0%	7.3%	11.5%	0 ppm	0.0 ppm

1019 @ SITE TRAILER TO DECON FITTINGS.

1055 @ [GP24A-09]

CAN ID #11302; FC - 11516

1103 -7" Hg HELD IN TRANE

1106 68% He in Containment; 1925 ppm
in TRANE; PASS <10% He.

1110 BEGAN PURGING PROBE @ 200 ml/min
FOR 5:57 MINUTES (UNKNOWN
DEPTH OF PROBE A/B)

1116 He in Containment @ 61.1%;
He in TRANE 0 ppm ✓

* Good To Take Pre-Sample Readings
↳ (1118) SVA-38443-082218-GL-025

BP @ 29.29 mm Hg

1144 Summa Canister @ -15" Hg

1203 Summa Canister @ -7" Hg

1209 Summa @ -5" Hg; He in Cart. @ 78.7%

Post Sample: CH ₄	LEL	CO ₂	O ₂	H ₂ S	VOC
He in TRANE 0%	0%	11.9%	5.8%	0 ppm	0.0 ppm @ 0 ppm



8/22/18 Cont...

1220 SET-UP @ [GP23-03]

CAN ID #10187; FC - 10317

1225 TRANE HOLDING -7" Hg

1227 He in Containment 53.6%;
He in TRANE @ 0 ppm

* OPEN SOIL VAPOR VALVE

1228 BEGAN PURGING PROBE @ 200 ml/min
FOR 5:31 MINUTES

1235 He in Containment @ 78.6%;
He in TRANE @ 0 ppm

* GOOD TO TAKE PRE-SAMPLE READINGS

↳ (1237) SVA-38443-082218-GL-025

BP @ 29.28 mm Hg

1303 Summa Canister @ -16" Hg

1325 Summa Canister @ -9" Hg

1339 He in CANISTER @ 57.5%; -5" Hg; CAN.

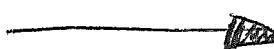
Post Sample: CH ₄	LEL	CO ₂	O ₂	H ₂ S	VOC
He in TRANE 0.0%	0%	6.8%	9.7%	0 ppm	0.0 ppm @ 0 ppm

1352 @ SITE TRAILER TO DECON TRANE
FITTINGS

1420 @ [GP31-18]

CAN ID #11274; FC - 09883

1428 He in Containment @ 51.7%; He
in TRANE @ 0 ppm



8/22/18 Cont.

1429 Vacuum of -6" Hg Heads up
TRANE
* OPEN VALVE & SEAL CONTAINMENT
TO GROUND

1433 BEGIN PURGING SOIL PROBE @
200 ml/min

1435 He IN CONTAINMENT @ 96.4%;
He IN TRANE @ 0 ppm

* OKAY TO TAKE PRE-SAMPLE
READINGS

L (1438) SVA-38443-082218-EL-026
BP @ 29.24 mm Hg

1505 Summa Canister @ -15 Hg

1522 Summa Canister @ -9 Hg

1534 He IN CONTAINMENT @ 56.4%

1536 CLOSE SUMMA CAN @ -5" Hg

Post Sample: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.0% | 0% | 2.5% | 17.9% | 0% | 1.7 ppm
@ 0 ppm

1545 SET-UP @ GP 30-18

CAN ID # 10043; FC - 10956

1551 TRANE HOLDING VAC @ -7" Hg

1552 He IN PRO-CASE @ 55.7%;

He IN TRANE @ 0 ppm

* OPEN VALVE ON PROBE (3/8")

6/18

8/22/18 Cont.

1553 BEGIN PURGING @ 200ml/min
FOR 0:41 MINUTES

1555 He IN PC IS 64.3%;
He IN TRANE @ 1300 ppm
* GOOD TO TAKE PRE-SAMPLE
READINGS

L (1557) SVA-38443-082218-EL-027
BP @ 29.24 mm Hg

1628 Summa Canister @ -16" Hg

1650 Summa Canister @ -7 1/2" Hg

1700 CLOSE SUMMA CAN @ -5" Hg; He
IN PC @ 72.4%

Post Sample: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.0% | 0% | 0.0% | 13.3% | 0 ppm | 0.3 ppm
@ 3275 ppm

1703 CLEAN-UP EQUIP. @ GP 30-18.

1730 OFFSITE

~~1730 OFFSITE~~

038443-330

8/23/18

0715 G. LEWIS ON SITE

* S. TEDRICK ALREADY ON SITE;
RE-ASSEMBLED ALL FITTINGS

* TGSIM w/ DRILLERS

* CALIBRATE EQUIP. PER ISO
FORM D STANDARDS.

0745 BEGIN SET-UP @ GP 16-09

CAN ID # 10100; FC = 09957

0757 -6½" Hg HELD IN TRANE

* OPEN VALVE TO TEST He IN
PROCASE

0800 - He IN PC @ 59.9%;
0 ppm IN TRANE

0802 BEGIN PURGING PROBE

@ 200 ml/min FOR 301 MINUTES

0805 He IN PC @ 95.7%;

He IN TRANE @ 0 ppm

* GOOD TO TAKE PRE-SAMPLE READ.

→(0808) SWA-38443-082318-GL-029
BP @ 29.41 mHg

0831 Summa Canister @ -16½" Hg

0857 Summa CAN @ -7" Hg

- → H2O

8/23/18 Cont...

0902 Summa @ -5" Hg (CWE CAN);

He IN PC @ 87.6%

Post SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.7% | 14% | 10.3% | 1.1% | 0 ppm | 0.2 ppm
@ 0 ppm

0913 SET-UP @ GP 33-18

CAN ID # 10093; FC - 11905

0916 -7" Hg HELD IN TRANE

0917 86.7% IN PRO-CASE;

0 ppm IN TRANE.

0918 BEGIN PURGING GAS PROBE

(¾") @ 200 ml/min FOR 0.54 MINUTES

0920 He IN PC @ 72.8%; He

IN TRANE @

* OKAY TO TAKE PRE-SAMPLE READS

→(0922) SWA-38443-082318-GL-029

0950 Summa Canister @ -19" Hg

1030 He IN PROCASE @ 77.4%;

CAN @ -5" Hg, TURN-OFF CAN

Post SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.8% | 0% | 11.1% | 3.3% | 0 ppm | 0 ppm
@ 0 ppm

1033 Pack-UP TO DECAS SAMPLE TRAVES.

1042 @ TRAILER; ALCANOX BATH, DI WATER
RINSE, 200°F FOR 20 MINUTES BAKE.

→ H2O

8/23/18 Cont.,

1113 @ GP 20-18

CAN ID = 11696 ; FC - 10931

1117 -7" Hg HELD IN SAMPLE
TRANE

* OPEN VALVE & CAP

PRO-CASE TO DO HELIUM
CHECK.

1119 He in PRO-CASE @

77.7% ; He in TRANE

@ 0 ppm

1120 BEGIN PUFFING PROBE

(3/8") FOR 0:42 MINUTES @

200 ml/min.

1122 He in PC @ 72.1% ; He
in TRANE @ 0 ppm.

* TAKE PRE-SAMPLE READINGS

↳ (1125) SVA-38443-082318-GL-030

BP @ 29.40 mm Hg

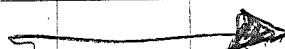
1148 Summa Canister @ -18" Hg

1208 Summa Canister @ -9" Hg

1221 He in PC @ 97.4% ; Summa

CAN @ -5" Hg

Post Sample:	CH ₄	LEL	CO ₂	O ₂	H ₂ S	VOC
He in TRANE	0.0%	0%	10.0%	2.4%	0 ppm	0.0 ppm
@ 0 ppm						



8/23/18 Cont.,

1227 SET-UP @ GP-22-13

~~DUPPLICATE CAN ID # 10992 ; FC - 10957~~

CAN ID = 10209 ; FC - 10547

1233 -7" Hg HELD IN TRANE ; OKAY

To OPEN VALVE

1236 63.7% He HELD INSIDE

CONTAINMENT ; 0 ppm in TRANE

BEGIN PUFFING PROBE @ 200 ml/min

FOR 5:59 MINUTES

1244 87.7% He in Containment ; 0 ppm

He in TRANE

* GOOD TO TAKE PRE-SAMPLE READINGS:

↳ (1246) SVA-38443-082318-GL-031 10209

(1246) SVA-38443-082318-GL-032 ¹⁰²⁰² ~~DUP~~

BP @ 29.34 mm Hg

* NOTE * NEED TO GO TO PREMIER

SAFETY TO GET MORE 1/4" SAMPLE

TURBINE ; WE HAVE USED ~130'
AT THIS TIME.

1312 Summa Canisters @ -1/4" Hg ;

-17" Hg

1340 Summa Canisters @ -7" Hg ;

-7 1/2" Hg

1347 BOTH CANS @ -5" Hg ; 74.6% He in Cont.

Post Sample:	CH ₄	LEL	CO ₂	O ₂	H ₂ S	VOC
He in TRANE	0.0%	0%	8.5%	0.0%	1 ppm	0.1 ppm
@ 0 ppm						



8/23/18 Cont...

1352 Clean-up @ PROBE; NEED
TO DECAN SAMPLE FITNESSES.

1445 @ GP 19-18

* WILL SET-UP AMBIENT SUMMA
CANISTER AT THIS LOCATION
CAN ID # 16709; FC - 10895

→ (1510) SVA-38443-082318-GL-033

GP 19-18 CAN ID # 09690; FC-09565

1501 -7" Hg HELD IN TRANE

1502 HELIUM IN PRO CASE @ 73.7%;
HELIUM IN TRANE 75 ppm.

1506 BEEN PURGING GAS PROBE @
200 mL/MIN FOR 0:42 minutes

1507 He in PC @ 89.1%; He
in TRANE @ 8 ppm

* GOOD TO TAKE PRE-SAMPLE #3

→ (1510) SVA-38443-082318-GL-034

BP @ 29.33 mmHg

1538 AMBIENT @ -17" Hg

GP 19-18 @ -15" Hg

1605 AMBIENT @ -7" Hg

GP 19-18 @ -6" Hg

8/23/18 Cont...

1608 PROBE SAMPLE CAN @ -5" Hg;
CLOSE CAN; HELIUM IN PC @ 82.2%
Post SAMPLE; City LEL CO₂ O₂ H₂S VOC
He in TRANE 1.8% 36% 10.1% 0.6% 2 ppm 0.4 ppm
@ 0 ppm * AMBIENT SAMPLE STILL "ON"

* 3 PROBES REMAIN TO SAMPLE;
CLEAN-UP @ GP 19-18 TO FINISH
FOR TODAY.

1614 CLOSE AMBIENT SUMMA CANISTER
@ -5 1/2" Hg

1625 @ SITE TRAILER; ONLY 4
CANS REMAIN (ALL NEED TO
BE USED ON 8/24/18)

* USE CAN ID # 09938; FC

11786 FOR TRIP BLANK CAN

*** THIS CAN ORIGINALLY HAD
~ -26 1/2" Hg

→ TB-38443-082318-GL-001

1645 OFFSITE



38443-330

8/24/18

0700 G. LEWIS, S. FEDRICK ON SITE

* TGSN w/ DRILLING CREW

WEATHER: CLEAR, 58°F; FORECAST

SUNNY, 81°F (POSSIBLE AFTERNOON
RAIN)

ACTIVITIES: AFTER RE-COUNT OF PROBES,
ONLY 2 PROBES REMAIN (GP32-18,
GP01-18); DUPLICATE ON LAST
PROBE (TOTAL 31)

0715 CALIBRATE EQUIP / ISG FORM "D".

0742 SET-UP @ GP32-18

CAN ID #09604 ; FC - 11091

0753 TRANE HOLDING -6" Hg

* TURN-ON VALVE & SEAL
PRO CASE.

0755 65.3% HELIUM IN PRO-
CASE; 8 ppm IN TRANE

0756 BEGIN PURGING PROBE @

200 mL/min FOR 0:41 MINUTES

0758 He IN PC @ 66.7%; He

IN TRANE @ 8 ppm

* TAKE PRE-SAMPLE READINGS.

→ (0800) SVA-38443-082418-GL-035

BP @ 29.38 mm Hg

8/24/18 cont..

0824 SUMMA CANISTER @ -16 1/2" Hg

0847 SUMMA CANISTER @ -7" Hg

* TURN-ON METERS TO TAKE
POST SAMPLE READINGS

0854 He IN PC @ 56.3%

0855 CLOSE SUMMA CAN @ -5" Hg

POST SAMPLE: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
He IN TRANE 0.2% 4% 16.5% 0.4% 0 ppm 0 ppm
@ 0 ppm

0909 SET-UP @ GP01-18

CAN ID = 10832 ; FC = 10766

CAN ID = 10330 ; FC = 10888

* LAST SAMPLE REQ. DUPLICATE

0912 TRANE HOLDING -6 1/2" Hg

0914 51.7% HELIUM IN PRO-CASE;
1225 ppm IN TRANE

0916 BEGIN PURGING 3/8" SOIL
GAS PROBE FOR 0:27 MINUTES

0917 He IN PC @ 83.4%; He
IN TRANE @ 775 ppm

* TAKE PRE-SAMPLE READINGS

→ (0919) SVA-38443-082418-GL-036

SVA-38443-082418-GL-037

BP @ 29.37 mm Hg

0944 SUMMA CANS @ -14" Hg ;
-17" Hg

8/24/18 cont'd.

1009 SUMMA CANISTERS @

-3" Hg & -6½" Hg

1010 CLOSE SUMMA CANISTERS

#10882 IS -036

* 92.6% He in Pro-case;

1775 ppm He in TRANE

Post Sample: CH₄ | LEL | CO₂ | O₂ | H₂S | VOC
34.4% | >100% | 16.1% | 0.5% | 1 ppm | 5.8 ppb

1025 @ SITE TRAILER TO PACK-UP

ALL SUMMA CANS & FILL-OUT
COC'S

1125 BEGIN "Full Rows" OF SOIL
VAPOR PROBE MONITORING.

1630 COULD NOT LOCATE GP07 OR
GP03

LEAVE SITE

